

**Reframing Benefits of Equid Assisted Activities: An analysis of  
engagement between autistic children and donkeys**

Submitted by Michelle Whitham Jones to the University of Exeter as a thesis for the degree of Doctor of Philosophy in Anthrozoology by Publication in December 2018 for examination.

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## **Abstract**

This thesis explores engagement between autistic children and donkeys during Equid Assisted Activity (EAA) sessions. I present the blurred position of EAA in Human-Animal Research that results in unreliable methodology and understanding about the equids' perceived abilities. I argue that 'benefits of EAA' explored in other research is a problematic concept, because of the heterogeneous nature of autism and the individual character differences between donkeys. Using narrative analysis and narrative ethology showed that autistic children and their donkey partners demonstrate diverse and complex engagement behaviours that cannot be reduced to an entity of benefits that applies to all individuals. Qualitative stories about autistic children and donkey interactions offered a broader understanding of who each participant was, resulting in their caretakers forming new accountabilities and making informed decisions about their participants' wellbeing.

I questioned the quality of engagement in 15 reported studies on EAA and the methodological preference of only measuring and reporting human responses. In order to measure the quality of engagement between autistic children and donkeys I designed and tested a Quality of Engagement Tool (QET) that was reliable enough to be used in a number of research designs.

The QET identified that engagement behaviour of one partner was correlated with that of the other partner in the same session. Individuals (children or donkeys) engaged differently when interacting with a conspecific as opposed to a heterospecific. The stories presented through narrative analysis and narrative ethology, coupled with the findings from the QET are important for future research. Measuring outcomes for children would be highly dependent on their

relationship with their equid partner or indeed if they had the same partner for the duration of the research therefore; equids and humans should be considered as equal participants. The thesis concludes with a summary of findings from this project and signposts future research directions.

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## **Notes on Anonymity**

This research was funded by the Donkey Sanctuary of GB and much of the research took place at their centres. I have named them in the text, with their permission, however I have used pseudonyms to describe specific centres, staff or donkeys to protect participants' anonymity as suggested by the framework set out by the ethical guidelines of the Association of Social Anthropologists of the UK and the Commonwealth (ASA 2011). For the same reason all photographs used in this thesis are my own work and have been formatted to maintain the anonymity of participants, apart from Photographs 12\* and 21\*, that were taken by a more-than-helpful colleague.

In chapter 3, informants asked to be described by their names and to be acknowledged in the text, therefore, I have not used pseudonyms to conceal their identity.

## **Notes on Referencing**

Throughout the thesis I have used the American Psychological Association referencing system (APA). When referencing web sites or personal communication I have used the acronym 'np' to indicate 'no page.'

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### **Situating myself in the research**

Much of my career has involved working with people that were listed in my early professional credentials as those 'with learning difficulties'. History has demonstrated that nomenclature generally represents attitudes and interventions of society at any one time. In 1997, I extended my science teacher training to include children with 'Special Educational Needs and Disability,' a term that still stands in the education code of practice (SEND 2015). At the time, SEND signified a learning difficulty that generally indicated that a person was less able to learn compared to the majority of the population. Thankfully the tides are slowly changing and terminology is beginning to catch up with what most of us working in the field understood to be 'diversity.' As a rookie teacher I was given a class of 'high flying' science students. They were considered the cleverest and most promising students we had in school. In hindsight, I recognise them as students with Asperger's syndrome, a term discussed at length in chapter 2. I spent all of my non-teaching hours preparing for those lessons. After every one, I was left pondering why my group-work plans fell so flat and how the students knew so much more than me. It never occurred to me that they had a learning 'difficulty,' on the contrary. They were representative of a very small percentage of exceptionally scholarly students in a very large and very diverse comprehensive school. Up until recently, children with Asperger's syndrome would have been classified as having 'learning difficulties' but the term has changed to 'specific learning disabilities' to clarify the social aspects associated with Asperger's and not academic learning disabilities (NAS 2018:

np). Another part of my job was working with students with Downs Syndrome. They were not expected to attain standard examinations and only attended the school twice a week for 'inclusion.' Learning difficulties was such an inappropriate term to describe these vibrant young people who attracted other students to volunteer in droves to accompany them at social times. Providing the 'learning' that we presented to them was accessible, they did not find it difficult. It was the same for my students who were taking Advanced levels, the highest qualification that we offered. As long as the 'learning' that I expected of them was adapted to their ability, it was not difficult for them to achieve.

Next I worked as a Deputy Headteacher in a Special School for children whose 'learning difficulties' prevented them from learning in mainstream education. Finally, I became a School Principal for young people with Dyslexia and Autism and the term 'learning difficulty' became mixed with 'specific learning disabilities.' In actual fact I had long since dispensed with taking much notice of these labels and accepted each child for who they were.

My Career journey brought me into contact with hugely diverse personalities and provided me with privileged and unique tutelage about how many ways people feel and benefit from everyday experiences. I quickly dismissed the idea of examinations and learning outcomes being a linear affair that was presided over by humans with high IQ's or qualifications very early in my career. Instead, I came to understand that it was an individuals' motivation to engage with that which was accessible to them that determined the outcome. An Individual's motivation is determined by a range of factors and this is how I understand diversity. Individuals within each species including humans are collectively

referred to as animals in this thesis (unless otherwise stated) and diversity is true for all animals.

In the school where I was Principal we had dogs. They were neither trained nor appropriate to be used as 'Autism Assistance Dogs for Children' (DfG 2018: np). They were the pets of two valued members of staff. Howard a Corgi and Jeff a French Bull dog were the source of great comfort, amusement and frustration to both young people and adults in the school. Their presence highlighted how some young people with autism were able to cope with school as long as Howard or Jeff were part of it. Both dogs were individual characters and as a result they attracted different young people. They sat with students during exams and enabled pairs of autistic pupils to socialise together during pre-arranged dog walks. I didn't expect the dogs to be such a positive influence on the young people and neither dog seemed to like being taken away from them. It wasn't unusual for teachers to question me about the ethics of being growled or barked at when they were talking strongly to errant children. When the dogs arrived each morning they were not content to stay in their baskets in a quiet spot in school; Howard particularly barked constantly until a child came to collect him. Until I met Howard and Jeff I was quite sceptical of Animal Assisted Interventions for autistic children. I was concerned that these activities were being offered as an alternative to traditional autism interventions without enough evidence to support them. Many of the parents of my prior students had acquired pets or paid for various animal interventions and the results were very mixed. Quite often dogs would find themselves returned to shelters if they failed to live up to the parents' expectations of what they could do for the children. Horse riding also had mixed results. I felt very uncomfortable about the cost of

sessions for parents who were already financially constrained and as a lifelong horse fanatic, I had welfare concerns for the horses themselves.

This PhD was inspired by my former scepticism and my commitment to offering an honest and practical account of Equid Assisted Activities for families living with autism and for the equids who are used in this field.

Throughout this thesis I use the term autism as a verb to reflect the modern neurodiverse interpretation of the term, thus it does not begin with a capital letter. Kenny et al. (2015: np) conducted a research project on behalf of the National Autistic Society UK, to ascertain which terms people favour to describe autism. They found that 'the term 'autistic' was endorsed by a large percentage of autistic adults (61%), family members/friends (52%) and parents (51%) but by considerably fewer professionals (38%)' (Kenny 2015:446). These findings suggest that a large proportion of participants did not want autism and personhood to be separated by using the term 'person with autism.' I have attempted to ensure that the findings of this research are applicable and helpful to autistic children and their families, and so henceforth, I have chosen to use the term 'autistic' when referring to people with autistic traits. Finally to clarify my concerns regarding labelling, participants in this thesis presented as 'autistic' are done so with the caveat that they should be observed as diverse and unique individuals who have been placed under the umbrella term Autistic Spectrum Disorder (NAS 2018: np).

## **The Background 2015**

The Donkey Sanctuary of the UK, where this research took place, was founded in the late sixties and today cares for a huge population of over 6000 rescued and bequeathed donkeys in 10 sanctuaries around the UK and Europe. They

reach approximately 1.8 million donkeys and mules through their work in 35 countries worldwide (Donkey Sanctuary 2018: np). Their sister charity, initially called the Elisabeth Svendsen Trust, and then Donkey Assisted Therapy (DAT), was founded in the mid 1970's and has now merged with the Donkey Sanctuary. It started as a small provider of donkey riding for the disabled and early provision began as outreach whereby donkeys were driven to special schools (Feather 1986:247) for children who were then classified as 'mentally and physically handicapped' (Education of Handicapped Children Act. 1970:52). The founder of DAT, Dr Elisabeth Svendsen, did so at a time when children with special educational needs were much less visible in society than they are today. It was a time when services for parents and families were medically oriented and often the children were forced to miss out on community activities because of a lack of awareness or provision for them (Colin 1991:1). The middle to late 70's were a time of significant change for children with special educational needs. The 1959 Mental Health Act had recommended that children categorised as 'severely subnormal' should receive an education but it wasn't until 1970 that this became compulsory (1970:1b Education Handicapped Children Act). In 1976, the then Secretary of State for Education and Science, Margaret Thatcher, commissioned a review of special educational needs services 'for children and young people handicapped by disabilities of body or mind' (Warnock Report 1978). Life after 'Warnock,' as the review became known colloquially, aimed to enhance the education for special educational needs school children by providing a broad and balanced curriculum and 'integrating' them into society.

DAT provided an opportunity for integration through an activity that was accessible to children who were previously omitted from leisure activities such

as pony or donkey riding. It was Dr Svendsen's aim that both children and the donkeys would benefit from their interactions (Feather 1986:247). The Riding for the Disabled Association (RDA), another equid charity, provided services for children with disabilities and was also founded around the same time as DAT (RDA 2017: np), but they used horses and not donkeys. RDA was considered beneficial because of the physiotherapy potential that riding offered children with physical disabilities (Saywell 2009: 146), a benefit echoed by DAT who also assisted children with sensory impairment (Feather 1986:248).

DAT later acquired a purpose-built centre complete with an arena and an innovative one-way mirror observation room with a dicta-loop hearing system operated by an instructor with a microphone and children with headphones. The dicta-loop was used for

...children who found concentration difficult, and it is remarkable what good results can be obtained when the child hears only his teacher or riding instructor, and all other sounds [are] obliterated (Feather 1986; 248).

After the charities merged in 2012, there were 6 centres for DAT around the UK and many outreach programs both in the UK and Europe. Countless numbers of special educational needs children have enjoyed sessions with donkeys that consisted of riding or carting for larger children or those with mobility issues. The Donkey Sanctuary, however, are a progressive animal welfare charity and in 2014 sought to ensure that they were abreast of new research about Equid Assisted Activities and the welfare of donkeys. The growth and variety of equid assisted interventions and therapies for children with disabilities remained largely unregulated in the UK, so they sought confirmation that their DAT

program was still relevant to their mission and future plans. Although positive anecdotal evidence was always plentiful throughout the years, which alone was valid qualitative evidence of their success, they sought unbiased evidence that DAT was beneficial for both children and donkeys. The Donkey Sanctuary research team conducted an unpublished review of service users that attend their centres and outreach programs and concluded that autistic children were by far their largest user group (Burden 2014: unpublished). The title of the research originated from managers, trustees and other stakeholders who were interested in quantitative evidence of the outcomes of DAT because they were familiar with that style of data collection and analysis. Thus, this project was instigated with the original research proposal title 'What are the Clinical Effects of Donkey Assisted Therapy for Children with Autism?'

### **The Metamorphic Beginnings of the Research**

Research often refers to Equid Assisted Activities (EAA's) as 'interventions' (EAI's) or 'therapies' (EAT's). I will use the generic term EAA throughout this thesis to represent all types of situations where equids are 'used' in an activity for children with autism. The term 'equids' describes donkeys, horses, mules and zebras, although the equids used in EAA are generally donkeys and horses.

I conducted a literature search that did not yield results that discussed talents or abilities of autistic children that were revealed as a result of spending time with equids. Nor could I find any mention of unexpected occurrences or 'real time' observations. The emphasis of the research that I found was on 'improving' autism by using structured time with equids as an intervention. This belied my



experience of people living with autism because there appeared to be an assumption that autism was a noun to describe a homogeneous condition which could be 'improved' and EAA was appropriate for all autistic people, whereas my experience had taught me that it was anything but that. Chapter 2 presents a historical account of where the label autism came from and the many different interpretations of the word over recent history. This was important to unpick because I was concerned that there appeared to be an assumption that the label autism described something fixed when in fact it is an umbrella term that describes many potential manifestations. Robertson et al. (2017:259) recently pointed out that practices or interventions for children with learning disabilities, including autism, are based on evidence from research participants who are significantly demographically different from the USA population as a whole. I suspected that the case would be the same in the UK. There remained some troubling assumptions about the diversity in autism within research and I felt it important to present autistic people as individuals.

The results of my EAA literature search did not really reveal who the equid characters were although they played such a big part in EAA. I was intrigued to discover that on one hand they were portrayed as homogeneous and not worthy of appearing in the participants list of research papers but on the other, they were teachers, carers, playmates, workers, tools and spirit animals. They were members of a domesticated species whose roles had changed over time and with those changing roles they had gathered a new set of labels to describe their powers that humans wished to utilise. Nearly all of the research that I read about in the literature review cited ethical approval and various forms of collected permissions for their human participants but there was no mention of permission or consent from the equids, and this was troubling.

This lack of description about who the equids were in EAA research created a blurred position of what their role was and why they were part of an autism intervention. Chapter 3 reveals the confusion and diverse opinions about the authenticity of EAA based on expectations created by media representations and EAA marketing materials. I felt that it was important to focus on the reality of what equids could realistically offer in EAA and if they were able to meet the expectations asked of them. Chapter 4 introduces some of the equids from my research and tells their stories alongside those of their human partners in EAA. Van Dooren (2014:8) uses narrative as a way of knowing other animals better and I have also used narrative to give equids the voices that they deserve to have when their role is so central to EAA. Van Dooren (2014:9) suggested that 'knowing more draws us into new kinds of relationships and, as a result, new accountabilities to others.' It was my intention for the equids to be known as well as the autistic children in this research, so that facilitators or users of EAA become aware of the individuals whom they are responsible for and make informed decisions about their wellbeing accordingly. Both the human and equid participants in this research entered into a relationship with each other during interactions and it was the quality and levels of engagement in the unfolding relationship that became the focus of this thesis as it moved forwards.

The initial title of my proposed research; what are the Clinical Effects of Donkey Assisted Therapy for Children with Autism, began to seem too positivist and limiting after reading the related literature. The words 'Clinical' and 'Therapy' benefitted from re-thinking.

The American Psychiatric Association, Diagnostic and Statistical Manual (DSM V: 2016) defined 'Clinical Practice Guidelines' as the following:

[to] provide evidence-based recommendations for the assessment and treatment of psychiatric disorders and are intended to assist in clinical decision making by presenting systematically developed patient care strategies in a standardised format.

The Oxford English Dictionary also defined the word 'Clinical' in a number of ways that proved problematic to the design of this research 'very efficient and without feeling; coldly detached' or 'pertaining to the sick-bed' (Oxford English Dictionary 2016:2). I didn't think that 'clinical effects' of child-donkey interactions would tell the whole, important story within the context of interactions.

Next came a reflexive look at the word 'Therapy' and if what was happening during DAT could be accurately described as such. I was accustomed to working with therapists who were members of The Health and Care Professional Council (HCPC) of the UK who govern 15 broad professions, among which Animal Assisted Therapy does not feature. The HCPC has strict standards of practice so registered therapists or other health or care professionals could demonstrate their competence thus establishing confidence in their trade. The lack of membership made me question the merits of the title 'Animal Assisted Therapy.'

The English Oxford Dictionary defines the word 'therapy' as 'Treatment intended to relieve or heal a disorder, a course of antibiotic therapy [...or] 'cancer therapies' (EOLD 2016: np). That did not represent what I had observed at the Donkey Sanctuary either. In some sessions where the donkeys and children were actively interacting and seemingly very curious about each other, it was difficult to know who was enjoying the session more. Those sessions were interesting to watch because the dyads were both enjoying each other's

company without the child's autism featuring as something that required specific therapy.

Before I completed the literature search I had taken part in at least 15 sessions that included leading donkeys being ridden, side walking next to donkeys to support their mounted children, mucking out barns and grooming donkeys alongside children with learning difficulties. During that time I had also observed the whole centre, from a quiet spot on the edge of the arena or in the field. I spoke extensively with the school staff who accompanied the children and also staff and volunteers from Apple Orchard (one of the DAT centres). Whilst it was clear to me that some of the children generally enjoy the riding sessions, it was the ground sessions that appeared to elicit the most responses from both the children and the donkeys. I felt that the research should focus on clarifying 'engagement' happening between the donkeys and the children, because it appeared to be so variable depending on the child or donkey pairing. Rather than looking at 'benefits' or 'outcomes,' I thought that I should first identify how autistic individuals actually engaged with the donkeys and how the donkeys either responded, repelled or initiated engagement themselves.

It was the two-way interactions that I saw during my initial observations at the Donkey Sanctuary that revealed how important the quality of the relationship between the children and donkeys was. It became obvious to me that one member of the dyad had an effect on the other. Chapter 5 quantifies the quality of engagement and explores the effect that dyads have on each other.

The research team and senior advisors from the Donkey Sanctuary reviewed the aims of the proposed research following my literature review and after I had spent several weeks immersed at Apple Orchard, and reported my observations to them. The project focus moved from searching for clinical effects to exploring the dyad of engagement between species. Modernising the research perspective actually reverted back to the initial aspiration of the founder, Dr Elisabeth Svendsen, back in the mid 1970's. She had a love of children and donkeys and felt that their interactions benefitted each other. Thus, the objective of this research was reviewed and moved towards analysing the quality of engagement between autistic children and donkeys, evaluating the efficacy of EAA for either species and to reframe 'benefits' into something more measurable.



*Photograph 1: Engagement*

### **Methodological Choices for the Thesis**

As well as working with autistic children and adults for most of my career I have also had a lifetime with equids. I wanted this research to be representative and useful to families living with autism and the range of humans who interact with equids. I aspired to inform other researchers about the importance of understanding autistic or equid participants as heterogeneous with their own agency. The story that I wanted to tell in the confines of this thesis was intended to be based on an exploration of EAA and not to seek evidence of benefits.

Thus the choices that I made for methodology followed my exploration of EAA and so I utilised mixed methods techniques from both quantitative and qualitative science that were most appropriate to the questions that I asked at each stage of the journey.

In chapter 2 the results of an extensive literature search are presented alongside a historical perspective on autism. The equids are introduced and woven into a critique of EAA. In chapter 3 I explored perception about EAA and I chose a qualitative thematic analysis to identify if individual stories or descriptions about the ability of equids are typical or unusual. The themes found from the analysis are presented and clarify the realistic potential of equids to meet the expectations humans have of them. Chapters 5 and 6 'set out my stall' by exploring how interspecies interactions are effected by the other partner in a dyad.

Exploring relationships between autistic children and donkeys also seemed to demand a qualitative approach but I wanted to create a rigorous tool that could capture the quality of engagement that was quantitatively reliable and thus available for use in many other contexts. Driscoll et al. (2007) explained that mixed methods, combining qualitative and quantitative methods, 'expand the scope or breadth of research to offset the weaknesses of either approach alone (Driscoll et al. 2007: 19). Chapter 5 reveals how I used qualitative research methods to capture the terminology that carers use to describe engagement of autistic children and donkeys and how I used them as part of a quantitative tool-making process to offset the weakness of either approach. Johnson and Onwuegbuzie (2003:15) advocated mixed methods as a 'third research paradigm [... proposing that] research methods should follow research

questions in a way that offers the best chance to obtain useful answers.’ By combining qualitative and quantitative research methods I was able to design and test a Quality of Engagement Tool (QET) to provide useful answers to my research questions; does one member of a dyad affect the other in EAA and do participants act differently with conspecifics as opposed to heterospecifics? The QET was also created to provide useful answers in many other EAA environments as a way of collecting data for macro-evaluation and targeting but also for qualitative methodology within the context of a single EAA session.

Using qualitative and quantitative analysis for this thesis resulted in chapters being unequal in length. My intention was not a uniform literary description of the subject but to answer my enquiries using appropriate multivocality (Tracey and Hinrichs 2017) methodology, reflecting a range of stakeholder perspectives and a flexible writing framework was suitable for the purpose.

What is lost with some quantitative research methods and indeed the qualitative thematic analysis methodology used in chapter 3 is the temporal sequence of events during relationship formation which was addressed in chapter 4.

Capturing individual stories by using narrative analysis offers examples of the context and tangential variables surrounding multispecies interactions that would be impossible to control for in a quantitative repeated measures design.

Borrowing techniques from narrative ethology, I was able to present multispecies stories and ensured that both equids and humans were representative in the research. This approach is fast gaining momentum as a method for interspecies inquiry (see Van Dooren 2014; Baynes-Rock 2015; Govindrajan 2018). Extending subjectivity to nonhuman animals; ‘approaches them as persons whose inner lives and affective states are critically shaped by

their experiences of life in a world they inhabit in relation to a host of others’ (Govindrajan 2018: 20). Interspecies inquiry as a methodology, whether quantitative or qualitative, is particularly relevant when exploring autistic children whose inner lives are also interpreted as opposed to known. Many of the autistic children participants presented in this thesis were non-verbal, therefore exploring their inner lives and affective states requires the same type of methodological approach as for non-human animals.

The final chapter 6 summarizes the main findings from the research and discusses the implications for operational EAA and for research going forwards. As with most research I was left with more questions than answers and this is presented as questions for further enquiry. Finally I discuss how this research offers a unique contribution to the EAA research body.

### **Diagram to demonstrate the methods used to explore and measure relationships and interactions between autistic children and donkeys**

<b>Exploring relationships between autistic children and donkeys</b>			
<b>Chapter</b>	Chapter 2 Autism, Equids and EAA	Chapter 3 Reflections on the positional authenticity of trainers, practitioners and the media.	Chapter 4 Interactions between autistic children and donkeys explored through narrative analysis and narrative ethology
<b>Methodology</b>	Literature Search	Thematic Analysis	Narrative Analysis and Narrative Ethology
<b>Participants</b>		8 Trainers and practitioners	4 autistic children, 4 donkeys, groups of adults with autism and group of donkeys in Italy, stakeholder informants

<b>Measuring interactions between autistic children and donkeys</b>	
<b>Chapter</b>	Chapter 5 Measuring the Quality of Engagement between Autistic Children and Donkeys
<b>Methodology</b>	Qualitative Thematic Analysis Quantitative Tool Construction Validation and Testing
<b>Participants</b>	4 autistic children, 4 donkeys, stakeholder informants, 19 tool validity testers, 43 dyads of autistic children and donkeys



## Chapter 2. Autism, Equids and Equid Assisted Activities

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This chapter takes us through the history of the diagnosis of autism to current understanding and rhetoric. It explores the proposed benefits of EAA for autists and critiques the methodologies behind those claims.

EAA literature revealed a flawed anthropocentric approach that ignored how individual character differences of both children and equids may affect outcomes of EAA. The literature measures benefits as changes in child diagnostic psychometrics as opposed to the benefits of interspecies interactions.

The equids in EAA are introduced: *Equus asinus*, the donkey, and *Equus caballus*, the horse. The history of their relationship with humans and how they have come to be used in these type of activities is explained.

The liberal use of the term 'benefits' is scrutinised and the final section puts forwards an argument; that evidence of intersubjective engagement between the human and equid needs to be defined prior to assumptions being made about measurable benefits.

### Autism

It would be easy to reflect on the history of autism with criticism and to condemn the work and thoughts of past scientists. However, as misguided as some appear to have been, they were the pioneers and their work existed in a time-frame very much removed from our era of legislative equality and inclusion. I have presented this historical journey as a framework from which autism

interventions were built upon. Much of the information cited below comes from the seminal, historical books and a few papers written to propose theoretical understanding and treatment of autism for other professionals. It has been proposed that new scientific ideas take a long time to reach modern discourse because they are presented inaccessibly to the non-specialist (Rothman 2014: np). This is true for autism. It is not surprising that researchers investigating EAA as an intervention, have utilised a dated perception of autism. This chapter reveals that from the end of the 1980's, the media seized on a stereotypical portrayal of savants and miracle cures that have not been representative of reality (Maich and Belcher 2014:97; Conn and Bhugra 2012:56).

Current diagnosis of autism is based on clusters of behavioural and perception traits that appear in great enough numbers for the person to have sought, or been put forwards for, testing. These similar clusters of traits exist at various levels in a proportion of the population that we know as autists. The influence of autism on the person's character is dependent on how greatly their perception is affected. Baron-Cohen (2001:9) explains this by citing the 'bell curve' or normal distribution. He contends that at one end we have the largest clusters of autistic traits and at the other, none. Most of the population are somewhere in the middle. From my experience, what motivates people towards diagnosis for themselves or their children, is generally how much their position on the curve requires the label autism as an explanation or evidence to access resources. Some families are less concerned with resources aimed at improving or changing the child's autism. They are more interested in activities that offer improved quality of life.

## **The History of an Autism Diagnosis and Treatment**

In 1911 Eugene Bleuler, a Swiss psychiatrist, recognised a difference between some of his patients with intermittent schizophrenia and those with 'autos' (from the Greek 'self') who had a consistent pattern of behaviour. He termed 'autism' and proposed that there is '...withdrawal from the social world resulting from a preference for living in an inner world of *fantas*' (cited in Bentall 2003:24).

Autism did not occur for the first time when Bleuler devised the phrase. It is highly likely that humans and possibly other animals have displayed varying traits of what we now call autism, throughout evolutionary history (Frith cited in, Thomas 2016:7). At the beginning of the 20th century, mental diversities in people were not tolerated in society. People with a high proportion of autistic traits would have been removed from the population and placed into institutions. Bleuler (1911) classified autism as a type of schizophrenia, a mental illness that he thought incurable. He was a respected physician yet believed that schizophrenic's lives were of negative value and he avowed that being duty bound to preserve their lives was causing them more harm than good (Bleuler 1911:488). Despite the negative value Bleuler placed on the lives of his patients, he was unique in the treatment that he offered. In 1924, as the new director of a renowned clinic that Bentall (2003:200) described as 'the most backward psychiatric clinic in Switzerland,' Bleuler set about improving conditions for patients by working alongside them in natural endeavours such as agriculture. He noted their exact words and behaviours, which gave him a better understanding of how autism manifested itself. Bleuler continued to believe that autism was a component of schizophrenia and that it had a biological basis. Leo Kanner, a psychiatrist of Austrian-American heritage, challenged this notion. Kanner was working at John Hopkins University in 1943

when he published his seminal paper on 'Autistic Disturbances of Affective Contact.'

Kanner's work was based on a study of 12 children that he had diagnosed as having 'inborn autistic disturbances of affective contact' (Donnellan 1985:250). His description of autism, often referred to as 'classic autism' or 'Kanner's syndrome,' identified common traits of 'sufferers.' He observed that these traits were present at all times as opposed to his other patients who sometimes '[withdrew] from formally existing participation' (Nadesan 2005:10). Kanner rejected Bleuler's idea that autism was a type or component of schizophrenia, although he conceded that the trait presentation was similar. He commented that '[t]here is from the start an extreme autistic aloneness that, whenever possible, disregards, ignores, shuts out anything that comes to the child from the outside (Kanner 1943:41)'.

Kanner observed that the parents of the children in his study appeared to have a common intelligence in the fields of science, maths and the arts. He developed and then rejected the theory that autism was a result of cold, 'refrigerator parenting' (Kanner 1949:416). Kanner rather crudely described the mothers of autistic children as 'just happening to defrost enough to produce a child' (Kanner 1960: np). Later he acknowledged that autism had a possible organic origin and was not the result of parenting, although he identified common traits in his patients' parents. Kanner continued the trend of medicalising autism most likely because he considered the patients that he worked with mentally ill.

Those with fewer traits of autism who could speak and take part in academic endeavours were later identified as showing 'Asperger's syndrome' by the

Austrian paediatrician Hans Asperger in 1944 (Frith 1991:1). Asperger wrote his doctoral thesis at the same time Kanner was describing 'extreme autistic aloneness' (Frith 1991:1) but it would be over 50 years before the paper would also be recognised as a description of a type of autism. The manifestation of the condition he described came to bear his name; Asperger's condition, which later became Asperger's syndrome (Wing 1981:115). The war and the lack of communication opportunities meant that the young Asperger was not aware of Kanner's pioneering work on autism, yet the way he described his patients was uncannily similar. The prognosis for Asperger's young patients was significantly better than Kanner's because of their developed language skills. He described their ability to become engrossed in a specialist subject area and become immersed in concentration to such a level as to enable them to become quite expert in their chosen subject (Wing 1981:115).

Both Kanner and Asperger remain important historical figures in the diagnosis and labelling of autism. More recently, Kanner's syndrome or classic autism, as he described it, has assumed the form of 'severe autism' which includes minimal or absence of verbal speech (Shore 2018: np). The Diagnostic and Statistical Manual of Mental Disorders, fifth edition (American Psychiatric Association, DSM V 2013), introduced the category 'Level 3: requiring very substantial support' and classic autism, Kanner's syndrome or indeed severe autism would have fallen into that diagnostic set.

From the 1960's to the end of the century, the prognosis and sometimes alleged aetiology of autism followed many controversial twists and turns. It appears that mental illness was still very much considered distasteful during the decade 1950-1960 and treatment, albeit invasive, was considered necessary.

Electroconvulsive therapy which involved inducing an epileptic seizure by

running an electrical current through the brain, was at its peak during that time (Royal College of Psychiatrists 2013: np).

A contemporary of Freud, Bruno Bettelheim, subscribed to Kanner's 'refrigerator mother' theory even though Kanner himself had discarded it. His infamous book 'The Empty Fortress' (Bettelheim 1967) reinforced the parenting cause within a psychoanalytic paradigm. Bettelheim had been incarcerated in the Dachau and Buchenwald concentration camps when he was 35 years old. He believed that the incarcerated, 'zombie like' children that he observed there were made so by the cruelty of the guards. He proposed that the homes of autistic children were equivalent to concentration camps and thus blamed parents for autism (Badcock 2010: np). During his career, Bettelheim was considered an expert in child development. He held his position of Chicago University Director of the Orthogenic School for Disturbed Children for nearly 30 years. After his death in 1990, questions were raised about his credentials and character (Pollak 1996:104). Subsequently and rather astonishingly, he was discredited for being both fraudulent and abusive to the children in his care (Pollak 1996:189).

Despite Kanner dissuading the parenting cause of autism and the discrediting of Bettelheim, the theory still holds some influence. Bates (2018) suggests that France lags behind Europe with their treatment of autistic people. This he believes is because of the 'dominant influence of psychoanalysis over French psychiatry in recent decades' (Bates 2018: np). As late as 2014, Charles Melman was still attributing that 'the prosody of the maternal discourse plays a role in the development of autism' (Melman 2014: np).

In 1964, whilst Bettelheim was promoting parenting as the cause of autism, Rimland published his book 'Infantile Autism.' In it he challenged the notion that parenting was the cause of autism, probably to the relief of families and parents with autistic children the world over. Rimland believed that the cause of autism was in fact organic. His book became a catalyst for parents to contact him for more information and support. Rimland became the founder of the National Society for Autistic Children which later became the Autism Society of America (ASA 2018: np). He was a significant figure in autism research, so much so that he was one of the technical advisors on the Academy Award winning film Rain Man (directed by Barry Levinson 1989). In the film the protagonist, diagnosed with Asperger syndrome, has a superior ability for number and counting, a trait exploited by his brother in casinos in Las Vegas. Critics of the film questioned the promulgation of the savant-like qualities of the protagonist, exaggerating the 'misleading notion that people with autism are likely to be savants with incredible memory skills, when the vast majority of them aren't' (Felperin 2011: np).

Later in his career, Rimland caused considerable controversy by suggesting that Thiomersal, a mercury-based preservative used in vaccines such as MMR, was a component in the cause of autism (Rimland 2000:261). This theory was later refuted (Madsen et al. 2002:1477). Rimland's vaccine study was published in the wake of Andrew Wakefield and 12 of his colleagues who also suggested that the measles, mumps, and rubella (MMR) vaccine predisposed behavioural regression for pervasive developmental disorder and autism (Wakefield et al 1988:637). Both theories were refuted and Andrew Wakefield et al. was eventually declared guilty of deliberate fraud because they chose data that suited their case and falsified facts (Sathyanarayana and Chittaranjan 2011:95).

Despite the discrediting of theories linking autism to the MMR vaccine, they remained prevalent in the vaccination process for some time afterwards (Miller 2003:199).

From the 1980's to the end of the century things were less tumultuous in the history of autism and the focus remained on deficiency or deficits that were common to autists. Academic explanations tended to report what was wrong and why, as opposed to Hollywood's promotion of unrealistic stereotypes.

Conn and Bhugra (2012) suggested that

In the 1980s and throughout much of the 1990s, autism was considered to be a relatively uncommon medical diagnosis. It therefore appeared with disproportionate frequency in mainstream films of the time and continues to capture screenwriters' interest since (Conn and Bhugra (2012:56.

Their research critiqued 23 films that featured a character with autism during the 1980's and the 1990's. They argued that Hollywood film wields a 'global cultural interest' and therefore has responsibility to ensure that their portrayals are reasonably accurate. They concluded that 'the portrayal of autism in Hollywood film is primarily dramatic and rarely realistic...Inevitably, most films are made for entertainment rather than education' (Conn and Bhugra. 2012:61). Another study by Maich and Belcher (2014) explored 'storied representations' of characters with autism from 2006 to 2012. They found that 'common cross categorical themes portray scientific, clinical, and/or savant-like traits that tend to glamorise challenges inherent [to autism]' (Maich and Belcher 2014:97).

The problematic legacy of the media portrayal of autism emerges from a survey conducted by the UK National Autistic Society in 2008. 'Think differently, act



positively' was designed to assess levels of awareness and knowledge of autism amongst the general public and showed that 39% of respondents believed most autists to have 'special abilities' (Conn and Bhugra 2012:60).

Unlike the media, academics were not sensationalising their case studies during that era, but were beginning to understand the broad spectrum and range of impairment representative of autism. The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM 3) finally distinguished autism from schizophrenia in 1980 and it fell under the category of Pervasive Development Disorder (PDD). Then in 1994 the DSM 4 also included Asperger's syndrome, which coincided with Lorna Wing's introduction of Hans Asperger's original thesis.

Wing, another prominent figure in the history of autism, presented Hans Asperger's work to the scientific community (Wing 1981:119). She suggested that both autism and Asperger's syndrome should be viewed as parts of a continuum of disorders that she named 'the autistic spectrum' (Nadesan 2005:13). Wing emphasized the most prevalent traits in people on the autistic spectrum and named them collectively the 'Triad of Impairment.' This consisted of difficulties with 'Social Communication, Social Interaction and Social Imagination' (Wing and Gould 1979:11). Wing was influenced by her own daughter's autism and did not address causation. Instead she focused on diagnosis and support for autistic people. Her work was well respected by other prominent researchers because of the nuances and attention to details that she observed. She had noticed the absence of pretend play in younger children with autism and this, according to Frith (cited in Happe and Baron Cohen 2014: np), 'was crucial in understanding how the social impairments of autism result from a

neurocognitive deficit in 'theory of mind,' or 'mentalizing'. Wing provided the basis for Frith and Baron Cohen's seminal work on theory of mind.

In 1989, Simon Baron Cohen presented his PhD thesis supported by his supervisor Uta Frith, suggesting that children with autism lack a 'theory of mind'. They postulated that the children in their study were unable to identify the thoughts or feelings of others and this was deduced from an experimental design using puppets (Baron Cohen 1989:285). This now renowned study was a move towards a cognitive neuroscience explanation of autism, and, like Wing, moved firmly away from behaviourist explanations. Frith was an advocate of improving the quality of life for people with both autism and dyslexia and as a cognitive neuropsychologist, she began pioneering work to utilise fMRI studies to support evidence-based interventions (Thomas 2016:11). Frith and Baron Cohen studied autism from a neurological perspective, thus identifying the traits of autism as both physiological and behaviourally observable. Frith had an open-minded attitude and freely described positive aspects of autism, even for children who were severely affected as this passage portrays:

That they existed in the sense that they were so beautiful, so graceful in many ways; that they could do so many clever things, and yet that they had absolutely no way of relating to people, of communicating, of even being interested in capturing an adult's attention or another child to play with that child (Frith cited in Thomas 2016:7).

Baron Cohen continued in the pursuit of autism research and in 1995 published his seminal book 'Mindblindness'. He suggested that most people [and some non-human animals] continually read minds by understanding subtle nuances of others' behaviour and mental states. He proposed that people with autism had

‘mindblindness,’ an inability to understand the mental state of others. His book facilitated a greater understanding of the perception and ‘mind’ of people with autism and marked the beginning of a shift away from identifying what was wrong to what was different. Baron Cohen, who became Professor of Developmental Psychopathology at the University of Cambridge, continues to offer insights into the perception of autists. His more recent research identified that higher testosterone levels in amniotic fluid appears to correlate with autism in boys (Baron Cohen et al. 2015:369). He advocates researching in multi-disciplinary teams ‘to move from perception and cognition to neuroscience and from there into molecular biology, including hormones and genetics’ (Autism Speaks 2015: np).

Whilst Baron Cohen and Frith were proposing their missing ‘theory of mind’ in 1989 in Cambridge UK, Temple Grandin was developing her own autism theories working with cows in the USA. Grandin is an autistic woman. She worked in the cattle industry, improving the management and welfare of cattle because she felt that she was able to understand them as a direct result of her autistic perception (Grandin 1988:36, 1995:4). She later extended her insight to ‘decode animal behaviour’ and understand how ‘they’ think (Grandin 2005:1). She posited the notion of similarities between non-human animals and autistic people using her own experience of living with autism. Grandin stated that she thought in pictures. This, she initially said, was typical to all autistic people (Grandin 1995:1), although she later conceded, that it couldn’t be generalised. She proposed that non-human animals may be more easily understood by people with autism who struggle to process ‘verbally transmitted emotion-related information... [in the face of ] non-verbally transmitted emotion-related information (Grandin cited in Fine 2010:247).’

Critics of Grandin tend to focus on the generalisation of her own autism to that of others. Her own ability to understand other animals was mainly focused on cows or horses. Grouping autistic humans alongside other animals but separate from non-autistic humans was regarded as scientifically inaccurate. Vallortigara et al. (2008) suggested that what Grandin proposed as a 'thinking similarity' between autists and other animals was flawed because, ultimately, humans are also animals.

We argue that animals, like nonautistic humans, process sensory information according to rules, and that this manner of processing is a specialised feature of the left hemisphere of the brain in both humans and nonhuman animals... likely reflecting ancient evolutionary origins of the underlying brain mechanisms (Vallortigara et al. 2008:42).

Simplifying other animals sensory processing as being dichotomous to either autistic people or non-autistic people lacks plausibility. Grandin however, clearly had a remarkable relationship with the cattle that she worked with and reported that she improved the cattle industry welfare standards significantly (Grandin 2009: np). She believes that her ability to understand the perception and thought processes of other animals has led to evidence-based improved welfare during the slaughter process but Bekoff and Pierce (2017) refute this. They point out that very little research has been conducted on animals that die in the wild therefore she can't quantify her arguments (Bekoff and Pierce 2017:53). Grandin still publishes influential papers on the welfare and handling of animals for slaughter (Grandin 2013:491) and is often invited as a guest lecturer for autism conferences. Her personal website states that she writes and speaks for people with autism all over the world (Grandin 2018: np). However, Amy Sequenzia, also an autistic woman, does not feel that Grandin represents all of

her views. Sequenzia is one of a new generation of autistic writers and bloggers who identify as part of the neurodiversity movement and who take offence at having their autism categorised by how they are perceived to function in relation to non-autistic people. She described Grandin as ‘a brilliant woman’ but expressed her dismay at how she labelled herself as ‘high-functioning.’

I have [...] read an interview with Temple Grandin, the most famous autistic with a “high-functioning” label, where she seemed to think very little of people like me. In the interview, she mentions how we should include and give opportunities to all “high-functioning” autistics. How about the rest of us, the ones who don’t fit her favoured category?

(Sequenzia 2018: np)

The neurodiversity movement first began to influence attitudes toward autism in the 1990’s. It pronounces autism as a form of neurodiversity and not a deficit of functioning. Sinclair (1993: np) explained that ‘Autism is a way of being [In seeking to improve the manifestation of autism]...what they’re really saying is, I wish the autistic child [that] I have, did not exist, and I had a different (non-autistic) child instead.’

According to the neurodiversity movement, instead of trying to ‘raise’ the autists’ deficits to nearer the non-autist standard, individuals should be understood for who they are within a diverse society. This cosmopolitan approach has many advocates. John Elder Robison, a New York Times bestselling author and also a man diagnosed with Asperger’s syndrome is a supporter of the neurodiversity movement ‘Asserting that I am different – not defective – is a much healthier position to take’ (Robison 2013: np). He believes that the historical exploration of autism from a medical perspective, looking for treatment and cures, has

resulted in 'precious little that actually helps the broader autistic population (Robison 2013: np).

Autistic people like Robison and others in the neurodiversity movement encourage intervention and support approaches that promote inclusion, social acceptance and tolerance of diversity. Robison and his contemporaries argue that new research should 'lead to better quality of life for those people today and tomorrow' (Robison 2017: np).

Neurodiversity is not the end of the autism story so far because it is not without critics from the autistic community. Jonathan Mitchel is an author and blogger and has publicly stated that he wants a cure for his autism (Mitchel 2007: np). His often controversial blog 'Autism's Gadfly' has been running for over 10 years. Mitchel uses his blog to oppose neurodiversity. He argues that children with 'severe' autism are disabled and life for them and their families will be harder as a consequence. 'The problem is, the autism is still there, the problems are still there' (Mitchel 2007: np). Mitchel has been highly critical of Robison and another influential figure in the neurodiversity movement, Steve Silberman. An additional winner of the New York Times book award for 'Neuro Tribes, Silberman detailed a neurodiverse designed world with stories offering a positive insight to the lives of historic autistic figures. Mitchel was offended by Silberman's comparison of autistic and non-autistic people being analogous to a Windows Operating System or a Linux, that just work differently. He stated that 'a more accurate analogy would be between a working computer that runs Windows and a computer that constantly crashes ...and shuts down due to overheating... (Mitchel 2015: np).

The debates and differences between both sides of the neurodiversity movement are reflective of the differences of how autistic people and their families define and perceive it. Contemporary research and interventions have remained focused on improvement of symptoms but it could be argued that these lead to the better quality of life that Robison called for. Mitchel (2015: np) argues that neurodiversity only really applies to autistic people who are cognitively able to represent themselves and he may have a point because a significant amount of the parents of children in my school were still seeking to improve the 'difficulty' traits identified by Wing in 1981.

One such study has had a noteworthy impact on families with an autistic child and has clearly embraced what matters to some of them. Between 2006 and 2010, one of the largest autism research projects took place that has developed into the only study to provide longitudinal results about an intervention. The Pre-school Autism Communication Trial (PACT) involved parent-mediated social communication intervention. Parents were regularly supported by a professional via face to face advice and video demonstrations during their child's pre-school years. This supported the parent-child dyad because it was argued that parents had more influence on their child's communication than a child professional would have had working directly with the child. The effect of the intervention on outcome measures were not highly significant, but a 'clear benefit was noted for parent-child dyadic social communication (Green et al. 2010:2152). The same children were followed up and re-tested six years later and this time the effects of the intervention were significant and 'apparent across both autism social-communication and repetitive symptom domains' (Pickles et al. 2016: np). This study used a psychometric test to measure the children's autism pre-intervention and then at follow up after six years. It is difficult to say if the

results actually enhanced the quality of life for the children or families because the advancement in their social communication was only measured by improved test results. The Autism Diagnostic Observation Schedule Calibrated Severity Score, ADOS CSS (Shumway et al. 2012:267), showed improvement after six years, a pattern not repeated by the control group who had received a standard intervention. Hailed as a huge success in the treatment and management of autism, PACT appeared to offer real hope to parents who felt that their children's social communication was in need of improvement.

In chapter 4, I present the wishes and hopes of some of my autistic participants' parents. They were not seeking 'improvement' or aligning their child to that of their other non-autistic children. They acknowledged difficulties for their child and, as a result, for their families. They sought an activity that would provide a positive experience for their child, one that could be called a hobby or interest. One parent said that she longed to find something that would take 'the awkward edges' off her autistic child so that he could 'blend in with the family and not be the focus of everything.' She felt that research should be aimed at supporting families to 'help make life more balanced'. Her sentiments are supported by Pellicano et al. (2014:756) who conducted a study to establish whether the direction of current UK research funding represented the concerns of the autistic community. Their findings showed that 'there was a clear disparity between [...] pattern of funding for autism research and the priorities articulated by the majority of participants' (Pellicano et al. 2014:756). They identified a general consensus that future priorities should lie in those areas that make a difference to people's day-to-day lives.

The term autism is no longer simply described as mental illness that necessitates diagnosis and treatment. As demonstrated above, it has a history



that has evolved and developed to mean different things to different people. The recent rhetoric about autism has often taken place outside of the traditional research community. The voices of autistic people are being heard through new technologies such as blogs and social media sites, creating a broader more critical epistemology of autism. This could be defined as citizen science. A type of methodology that Newman et al. (2012) suggested '[..] creates a nexus between science and education that, when coupled with emerging technologies, expands the frontiers of ecological research and public engagement' (Newman et al. 2012:298. Chapter 5 illustrates an example of how I utilised citizen science within this research project.

Followers or opponents of the neurodiversity movement do so using this expanding frontier of technology in a methodology that I have termed autographical-citizen science. Sequenzia does not wish to be to be represented by researchers. She stated this clearly in the last stanza of her 'Our story is ours to tell' poem featured in her blog:

We tell our stories because the stories being told about us are really about how the neurotypical majority sees us, filtered by the thick lens of ableism.

Or we don't tell our stories, because we are people, and we must have our choices respected (Sequenzia 2018: Feb np).

Sequezia writes about autism autobiographically yet regularly uses 'our' or 'us' lexes that hints at her self-representation of other autistic people too. As stated above, Grandin was openly criticised when she professed to speak for all autistic people. Although researchers must include the voices of autistic people we should be mindful that only a percentage are able to give it. Scientific

research should also challenge the notion that autism is homogeneous. It is not. It requires multidimensional research that addresses the needs and questions of individuals whose experience of autism is hugely varied.

There is little evidence that citizen science, particularly autobiographical citizen science, has impacted on autism research. This could explain the frequent reliance on psychometric testing to measure ‘improvements in autism’ as opposed to focusing on the quality of life angle suggested by Robison above (Robison 2013: np). In this research I am assuming that quality-of-life is something applicable to all life, autistic, non-autistic or donkey. I am also assuming that components of the triad of ‘impairment’ (Wing and Gould 1979:11)—Social Communication, Social Interaction and Social Imagination—are enhanced greatly for all social beings by positive engagement experiences. My autistic research participants in this study were largely non-verbal or pre-verbal and would fall into the category label cited above as Level 3 (DSM 5). I am not pretending to tell their version of their story which is so deeply offensive to neurodiversity allies, nor am I seeking a cure, measure or improvement to their autism. I am not seeking to explore benefits of EAA as quantified in other research, although I will challenge the authenticity of some existing claims. My enquiry is to explore the potential for EAA to offer a positive experience for some autistic children and donkeys by interacting with each other. Chapter 4 will reveal that parents of autistic children have many differing opinions about the difficulties and joys that they experience. Nonetheless, as a group they propounded one unanimous theme and that was for their children to experience something that would broaden their world: an opportunity to encounter feelings of anticipation and positive emotions that would break them away from the

ritualistic and habitually comfortable. That was my line of enquiry for this research.

Before I expand on the common practice of EAA, I am going to introduce members of the species *Equus* who have been utilised as ‘interventions’ for people with autism.

### **History of using EAA; *Equus asinus* and *Equus caballus***

In Randy Malamud’s (2013:36) seminal commentary on service animals, he asks the question ‘But what is in it for the animals?’ He suggests that we ‘steal’ some strength from service animals for our own gains such as a dog’s sense of smell or a horse’s physical strength. He defined these strength’s as animal powers (Malamud 2013:32). History shows us that these powers have come to represent the way in which humans categorise other animals for what they can do, or how they relate to us. However, the perceived power of the extant family Equidae, consisting of asses, horses, and zebras, has largely been dependent on their willingness to be domesticated. Zebras for example, are strong and hardy but domestication has been largely unsuccessful due to their very well-developed ‘flight abilities and extremely powerful fight capacity’ (Hall 2016: np). Hall suggests that ‘zebra are not really “people friendly” and as a species, they do not fit the criteria for domestication.’ Asses and horses on the other hand, have demonstrated the potential for domestication and evidence of this arguably goes back at least 5000 years (Beja-Pereira et al. 2004:1781).

The common ancestor of modern equids can be traced back to a mammal, *Sifrhippus*, which lived 56 million years ago (Forrest: 2016:9) and whose descendants diversified in shape over many generations into the remaining

species of equids that we have today. Forrest (2016) offers a poignant reminder about the evolution of equids when considering how long they have been domesticated by humans compared to the length of their own evolution story. She wrote

The evolution that follows from [*Sifrhippus*] is not smooth, Russian-doll progression of old fashioned natural history museums and biology diagrams in which extraneous toes are sloughed away, the neck lengthens and the cannon bones elongate until- shazam"- the family Equidae is fit to meet its human master, but instead a daily effort to live in climates and landscapes that shift by the millions of years (Forrest 2016:10).

Despite, or perhaps in spite of, their evolved capacity to live in various environments, equids have crossed the path of humans for a relatively short amount of time in evolutionary history. Modern equids evolved around 5 million years ago (Forrest 2016:11; Orlando 2015: 973) whereas the first hominids who began to hunt early equine species, *Homo erectus*, lived around 1.9 million to 135 thousand years ago (Gurche 2013:147; Forrest 2016: 12). Then *Homo sapiens* appeared a mere 300 thousand years ago (Stringer 2016: 371) and only began to utilise the powers of equids to customise their own environments through agriculture a measly 5000 years ago (Beja-Pereira et al. 2004:1781). It was their physical strength, however, that took them from a meat source to an employee. Carrying and pulling throughout early agriculture, exposed their equids' immense strength and manageability which was later capitalised and exploited for warfare (Bough 2011:33). From the 15th to the 20th century's equids, particularly horses and mules, were often associated with the middle or upper classes (Endenburg 2010:38). Although the donkey played a large part in

agriculture throughout the centuries, in the same way that ‘there were [perceived] different classes of humans, so there were different classes of other animals (Bough 2011:45). Donkeys became known as ‘the poor man’s horse’ (Svendsen 1989:5), and were employed mostly in agriculture until the invention of the combustion engine that reduced their numbers significantly in the so called ‘western world.’ (Svendsen 1989:6). Bee (a participant in chapter 3- pers. comm.) reflected that the majesty of the horse is a cultural preference that has just continued throughout the ages. She believes that horses running at liberty with manes flowing, evoke a primordial feeling of freedom. Donkeys, however, live in our cultural psyche as working animals and she argues that their unique characters and aesthetics have been overlooked. Donkeys are still working animals in many countries in the world. In Mali, West Africa, there is one donkey to every six people (Doumbia 2018: np). The donkeys work in a variety of hard labour jobs including piling and hauling thousands of tons of refuse. They and their human co-workers are open to a huge range of infections and illnesses including Tetanus. As a result the average life span of a ‘rubbish dump donkey’ is around one year (Doumbia 2018: np). A recent Donkey Symposium hosted by UC Davis (2018), presented several examples of the harsh working conditions that donkeys face around the world including carrying bricks, working in mines, transporting water and even acting as an ambulance for women in labour (Theuri 2018: np; Tariq 201: np; Kimaro 2018: np; Guillermo 2018: np). The striking part of many of the presentations at the 2018 Donkey Symposium was the closeness that the handlers often shared with the donkeys. In the Pakistan coal mines, donkeys and their human co-workers eat, sleep and toil together (Tariq 2018: np). The donkeys’ welfare needs often compete with the

livelihood needs of the humans' and this tension is directly influenced by poverty and a lack of enforced animal welfare legislation (Theuri 2018: np).

The latter end of the 20<sup>th</sup> century saw a new use for horses and donkeys whose powers shape-shifted to become therapist or teacher to groups of humans in the west (McCulloch 1986:19). The same manageability traits that enabled domestication of horses and donkeys, worked to establish them as healers; able to enhance human well-being via constructed equid facilitated activities. Donkeys were afforded this change of role alongside horses (Svendson 1989:246; Bertoti 1998:68; De Rose et al. 2011).

Despite the inclusion of donkeys in EAA services, the horse remains the most prolific equid used. Hart (2009: 79) speculated that there is still a prejudicial and stereotypical view towards donkeys as being stubborn. He refuted that notion and suggested that it is the donkey's suppressed fear response that manifests as perceived stubbornness. The fear response enables the donkey to process the potential threat and act accordingly. This is in contrast to many horses who, when faced with a threatening situation, visibly show fear and may fidget or flee. Many traditional training techniques deliberately exaggerate the horse's fear response to cause them to flee. Once in a state of flight the trainer then recalls the horse who yields to their pressure. The donkey however, 'tends to think though their options,' thus horse-training techniques are less successful on donkeys (Hart 2009: 77).

EAA started with riding therapy or Hippotherapy (Glasow 2018: np), which donkeys are less suited to than horses. Donkeys are smaller and have high withers that make saddle fitting awkward. The Donkey Sanctuary recommend that

Donkeys should be carefully assessed to determine the maximum rider weight they can carry. Historically “8 stone (50kg)” has been used as a guideline. In reality this should be the maximum load for a fit, larger than average donkey and only when the rider is able to stay balanced and react to the movements of the donkey (The Donkey Sanctuary website 2018).

Horses on the other hand appear to carry much heavier weights and there is no clear guidance on the weights that they can feasibly carry. An important horse-riding licencing body, The Riding Establishment Licence (England, Scotland and Wales 2018), strangely do not offer advice on weight of riders for horses.

Irrespective of the numerous reasons for the horse bias, horses and donkeys are the two members of the equid family that have been domesticated, and therefore some of the EAA research is transferable to either species.

### **The blurred position of EAA in human-animal research**

Equids like humans, are classified in the taxonomic kingdom Animalia. The classification of how each species of animal relates to one another is much more complex than it was initially presented in the historic paper by zoologist Carl Linnaeus; *Systema Naturae* 1735 (cited in Von Linne and Gottlieb Agnethler 2015). Linnaeus introduced the ‘western’ world to a scientific classification of living things that was acceptable within his culture during the 1700’s and is still utilised today. It was taken for granted that humans were at the top of the classification system, an assumption derived from 10000 years of pastoralism. Yet non-pastoralist societies classified humans and other animals very differently. Animist societies, often hunter-foragers, shared the belief that

all living creatures, natural objects and phenomena 'are imbued with an invisible soul, spirit or "essence" that animates the conscious body, but that is able to move about and act independently of the body when the bearer is either dreaming or otherwise unconscious' (Serpell 2010:17). As a result they hold all living creatures in high regard for fear of malicious spirits who may cause them misfortune. The way in which animists existed with other animals and the natural environment varied from tribe to tribe but Serpell (2010) pointed out that although the animists, like 'westerners,' ate other animals, they did not presume a higher hegemony. '[...] hunters invariably performed deferential rituals upon killing an animal, so that its "essence" would return [...] with a favourable account of how it was treated' (Serpell 2010:18).

The reason for this chapter's sway from taxonomy to animism is to introduce the blurred perception of the role of the equid in modern day EAA inquiry.

Much of the research body tend to assume other animals are 'living tools' in the human healing process. Coulter (2016:59), goes a step further and identifies these non-human helpers as workers, often in forced labour. Few researchers would consciously state that that their relationship with the equid is linear with humans at the top. Yet, the body of research shows the clear assumption that the special 'thing' that equids possess is there for the taking. In this way, equids are treated as a type of medical intervention or physical tool. Keison et al. (2017:1) states 'As versatile therapy animals, horses are used for riding, interactive ground work, grooming and touch therapy, as well as being used as observational tools for trauma patients.'

The tell-tale 'used for' indicates that within EAA, equids are for the benefit of people. The versatility Keison et al. describe, does not address the horses'



freedom or motivation to interact with the human. In contrast, some researchers, unwittingly present traces of mutual interspecies respect similar to that shown in animism to rationalise the role of the equid. '...by allowing them [horses] to fulfil their soul's journey, we ultimately find our own (Bernstein 2018: np). 'The enquiring tickle of a nostril can produce the hint of a smile in the most disabled child,' Frewin and Gardiner tell us (2005:15). One wonders if the finding of a soul enhances EAA sessions and if the enquiring horse does so spontaneously; in both cases these features are not measured as a variable in the research presented below. Tabares-Sanchez (2014:88) use descriptions such as 'due to the horse's unconditional devotion' that would imply that the horses are doing EAA to meet the needs of the humans. Some practitioners confuse the linear idea of humans on top and equids below with animist understanding of other animals. Bernstein (2018: np) runs Equalia Actualization, a company that sells time with horses to heal people. Her marketing literature suggests that

Providing them [horses] with a new sense of purpose shows them that you appreciate their true value. By bridging the gap between what we want and what they need, horses becoming willing, biofeedback participants, actively engaging in the healing and learning process of human development (Equalia Actualization 2018: np).

Equalia suggest that horses have a 'new calling' and one of their horses will give 'his own guru-like perspective on how to become connected to the horses' consciousness' (Equalia Actualization 2018: np).

Although animism may appear to be an enigmatic belief system, our 'western' culture also has quite a confused relationship with other animals as

demonstrated by the title of the book by Anthrozoologist Hal Herzog, 'Some we love, some we hate and some we eat' (2010). This confusion extends to other human-animal research. Non-human animals bear the terrible burden of testing various medical interventions, drugs or cosmetic products as part of rigorously designed scientific enquiry. The trials ensure that any risks are incurred by non-human animals so that the end product is appropriate for humans (Kalof & Fitzgerald 2007: 305). Indeed the 17th century origin of the term 'guinea-pig' (as defined by phrase.org May 2018) is 'a person or animal who is used as the subject of an experiment.' A guinea pig neither originates from Guinea nor comes from the pig family but was the subject of vivisection in the mid 1700's (Shaw 1929: np). This practice was justified by Linnaeus' theory that humans preside over other animals. Rigorous, tightly controlled scientific research still continues to use a range of animals as 'guinea-pigs.'

Donkeys are also used for their skins in Chinese medicine (Ting 2018: np). Their skins are processed to extract a product called Ejiao used as an elixir for a range of alleged health benefits and this practice is a growing concern for animal welfare agencies (see Donkey Sanctuary website, Under the Skin Report 2018; Doumbia 2018: np.). Currently there is scepticism as to the alleged health benefits offered by Ejiao and Xin Wen (2018: np) suggests that new research casts doubt on the product and he laments that 'most research into ejiao was carried out several centuries ago.

Conversely, equids in EAA research call upon horses' animistic 'natural nomadic spirit - [To form a] ...herd of mutual influence and cooperation' (Kohanov 2011:54). As we shall see, the appearance of a 'nomadic spirit' seems like a grandiose statement compared to the psychometric variables actually measured in the EAA research presented below.

I was concerned that my literature searching and visits to EAA centres revealed that this blurred position of EAA in research also seems to be prevalent in the centres themselves. This position required further enquiry to be able to ascertain a clear picture of what happens between autistic children and donkeys and not to be confused by misperceptions or stereotypes.

Chapter 3 offers an in-depth review of the perception about EAA so we will move on to explore what has been proposed and how viewing the equid as a tool has missed an important variable in the research.

### **Measuring perceived benefits of EAA for autistic people**

Since the early days, Animal Assisted Activities, including EAA's, have grown exponentially (Serpell et al. 2010: 481) and are not governed by specific laws or guidance in the UK. Instead, practitioners abide by statutory animal welfare and human safeguarding legislation and some have their own ethical and welfare codes (Professional Association Therapeutic Horsemanship, PATH 2017, Equids Assisted Growth and Learning Association, EAGALA 2017). Centres range from small operations with one or two equids, to global organizations such as 'The Horse Boy Foundation' and EAGALA, who are not-for-profit but have a large staff and volunteer body and many working equids. The Donkey Sanctuary of the UK have 6 specific centres that provide donkey EAA to a range of children and adults.

The growth in EAA may be attributed to the similar phenomenon of media promotion such as with autism presented above. The enigmatic book 'Horse Boy' (Issacson 2009) describes an autistic child who demonstrated an 'improvement to his symptoms' after he and his family spent time in Mongolia

with shamans and horses. The book was later made into a film and won the Feature Film Audience Award (2009). Issacson went to Mongolia to seek an intervention that 'western' medicine could not offer him and espoused the knowledge of the animist shamans. Later, Issacson founded the Horse Boy Foundation that, he suggests, places the affective aspect of EAA back into the paradigm of science. His web site states:

Many autists, and people with related neuro-psychiatric conditions, end up caught in a vicious cycle between an overdeveloped (or over activated) amygdala (the brain's fear centre) and an over-sensitive nervous system (The Horseboy Foundation 2018)

Horseboy offers online and live training to others interested in becoming a facilitator of the method that they offer. The 'science' behind his programme is presented from various equid professionals that endorse his method and cite huge benefits.

Other models take place in a variety of settings but EAA 'benefits' are presented as a consistent variable. Benefits for children with autism may derive from an extension of their social curriculum by visiting the EAA centre. They may thrive from engaging with the staff and volunteers, experiencing new sensory stimulations, spending time outdoors and being immersed into an environment that is deemed 'autism friendly.' Any of the above 'benefits' are acceptable and potentially positive, but none of them stem directly from the dyadic interactions but could affect the research outcomes significantly. With the media interest in autism and EAA, there is a danger that parents of autistic children could be misled by hyped or over inflated results of legitimate studies. Research Autism (2017) profiles credible, evidence-based research as part of the National

Autistic Society UK. They offer parents unbiased evaluations of autism interventions. In September 2017 their rating of EAA research remained 'Insufficient or mixed evidence.' In order to explore the reason for their rating, I conducted a literature search to uncover the benefits proposed and what variables were measured to support them.

The literature search was initially conducted in May 2016 and specified Donkey Assisted Activities or Interventions to the current date. It yielded one solitary result in the Ovid Technologies platform, which provides access to online databases, academic journals, and conference proceedings in health sciences. The result was actually on rehabilitation and not therapy (DeRose et al. 2001). When the search was broadened to equids per se, particularly horses, a much larger body of research was identified. Adding in the term 'autism' with all of its derivatives produced 56 studies although this was reduced to 23 following elimination of duplicates or theoretical papers. I was particularly interested in research papers that identified benefits and variables that were measured in experimental EAA research, so I removed theoretical papers. Systematic reviews and meta-analysis were also removed to reduce the risk of using the same study more than once, furthermore they did not meet the criteria for experimental research. The remaining number of studies totalled 15.

**Table 1. Empirical studies of EAA and the benefits that they measured in psychometric test results**

Authors	Social/ Emotional	General improvement	Physical	Motivation	Communication	Verbal language	Sensory Integration	Quality of life	Less distraction
Bass et al.2009:1266	Y			Y			Y		Y
Taylor et al.2009:198				Y					
Keino et. al 2009:79	Y	Y			Y	Y			
Hameury et al.2010:655	Y	Y	Y		Y				
Kern et al.2011	Y		Y					Y	
DeRose et al.2011:395	Y	Y	Y	Y					
Ward et al.2013:2190	Y	Y					Y		
Holm et. al 2013:946		Y							
Ajzenman 2013:653	Y	Y	Y	Y					
Lanning et al.2014:1904	Y		Y						
Garcia-Gomez 2014:120		Y						Y	
Tabares Sánchez et al. 2014:90	Y	Y							
Gabriels et al.2015:547	Y				Y	Y			Y
Steiner et al.2015			Y						
Borgi et al. 2015:5	Y		Y						

The prevalent benefits of EAA and autism as shown in Table 1 were mainly social and emotional, general improvement to autism ‘symptoms,’ physical or motor flexibility and motivational improvement. There were a few other benefits such as improved quality of life and increased communication (sometimes verbal), improved sensory integration and less distractibility. All of the studies apart from one used the test-retest method combined with a range of psychometric tests to measure outcomes. Tabares Sánchez et al. (2014:90) used the test-retest method but measured cortisol levels as a stress indicator which they reported decreased post-intervention.

The range of benefits tend to reflect the criterion on standard psychometric tests used in the diagnosis and severity assessment of autism (Schopler et al. 2010) Childhood Autism Rating Scale – 2<sup>nd</sup> Edition, Lord et al. (1999, 2001, 2002, 2008). Autism Diagnostic Observation Schedule). None of the research included methodology that could capture unexpected or unpredicted outcomes. Benefits were dependent on improvement in the deficiency that the test measured. Specific skills or individual quirks were not in the remit. Most of the research recorded baselines for each child and then measured changes after the activity. Learning for children with autism is developmentally atypical and not comparable to non-autistic children so the results could be misleading. Whereas non-autistic children show gradual simultaneous motor, communication and emotional development, autistic children do not attain the same concurrent assimilation of development (Hinnebusch et al. 2017:3967). They may show significant improvement in one area of tests but other scores could remain the same. A typical benefit cited was a rise in 'social communication' but this is often interrelated with contextual factors. Social communication improvements in one context such as in the EAA centre would not necessarily correlate with a rise in other areas like at school or indeed if it is sustained over time. This problem is comparable to a phenomenon in the UK Education system whereby compulsory recording of educational progress for all children is collected at various ages with the School Assessment Tests (SATS.Gov.UK 2018). The tests results are compared to a 'normal' bench mark set by independent trusts (Fischer Family Trust) to assess progress. Children without autism or any other learning diversity follow a fairly linear educational developmental ascent that enable teachers to predict their academic attainment potential from as young as 10-11 years old. In theory, the accumulation of SAT

results as the child matures confirms their generic developmental gains and signposts their eventual academic outcomes. Despite various attempts at replicating the same model for children with autism or additional special needs (Comparison and Analysis of Special Pupil Attainment 2018), no such interrelated scale shows the same predicted outcomes as with their non-autistic peers. This phenomenon is colloquially known as ‘spikey profiles.’ It is not really possible to predict developmental improvement of autistic children based on a single test result like it is with non-autistic children. Even progress within a single test result such as social communication is rarely linear or constant.

Loffler and Gordon (2018) point out that some children’s abilities may have been grossly underestimated due to an over-reliance on psychometric testing.

A growing movement in special education and speech/language therapy has recently been urging practitioners to set aside test scores and “presume competence” in people with severe disabilities – meaning you assume an individual is competent in the absence of good evidence to the contrary. (Loffler and Gordon 2018: np)

Children’s diagnostic tests in the specialist autistic school where I was principal were rarely re-administered during the 6-7 years they were at the school. It was accepted that the children would always be autistic and assessment of development was much more situational. Some of my students were more than capable of achieving high subject specific exam results but their inability to tolerate peers when they were sitting their exams remained constant. Their tolerance improved depending on their interest in the subject but it was contextual and could be reversed in an instant with itchy clothing or flickering lights.



Autism by its very nature affects people in such differing ways. Limiting the benefits of EAA to diagnostic criterion changes overlooks the contextual restrictions or advantages that autistic people may have. Psychometric tests of diagnosis that report improvements, albeit statistically significant, are still marginal. Unless the children stop being autistic (which has never happened), results only show how much closer to the 'non-autistic norm' the child has become in a specified area of deficit. These results may mislead parents who could assume that the improvements are developmentally linear or transferable to other areas of the children's' life. Frith (2016: np) said that autistic children '...were so beautiful, so graceful in many ways; that they could do so many clever things, and yet that they had absolutely no way of relating to people.' What if their secret is that they can relate to equids easier than to people? How could the above research capture the very clever things she mentioned? My own observations revealed that a few individual autistic children were able to tolerate staccato humming from ceiling lights when they were with the donkeys, something that their teachers said would challenge them in other circumstances. Was their increased tolerance because they were too worried about the donkey or was it because the donkey caused a positive diversion of their interests? I also witnessed adults interjecting verbal comments during child- donkey interactions that on two separate occasions caused the children to cover their ears and look up to the humming lights. Increased 'toleration' was a benefit in these circumstances but it was dependant on contextual auditory sensitivity. The mechanism for the benefit of increased toleration was somehow related to the donkeys which currently is not represented in the research body. One child very quickly demonstrated his ability to understand the concept of cause and effect. He learned that touching the donkey in a particular place

caused an involuntary shiver (the panniculus reflex), something he repeated often. The child's parent, who was watching with me, said that he never touches other children and his teachers doubted his understanding of cause and effect. So another positive outcome emerged: the interactions provided a new lens for the parents to observe their child. If the parent had been asked to complete an assessment form commonly used in psychometric testing, the positive outcome would have been lost from the data. During the field work for this research I met many parents and teachers of autistic children and was struck by how much anecdotal evidence of 'benefits' that they shared with me, yet this did not translate to improved diagnostic psychometric scores.

In an attempt to apply rigorous scientific controls to this branch of human-animal inquiry, research had failed to include measures that captured the abilities as well as disabilities of their participants. Although I had seen apparent positive interactions between autistic children and donkeys, the research findings did not go far enough to explain the link and mechanism between interactions and increased test scores. Research Autism concluded that evidence for EAA as an intervention for autism was understandably insufficient (2017: np). It was echoed by other researchers discussed below (Kruger and Serprell 2006:44; Anestis et al. 2014:1127).

### **Critique of EAA (more entangled variables)**

The potential for confounding variables affecting the mechanism and outcomes of EAA are numerous, such as impact of side walkers, riding or ground work, the weather conditions, inside or outside locations etc. It may not be possible to standardise methodology to a one-size-fits-all model because of the individuality

of participants and the range of models available, but there is a need for a more rigorous approach before firm conclusions can be made. This has been echoed by several other researchers in the field of human-animal interactions (O'Haire 2016; Nimer and Lundahl 2007). Kruger and Serpell (2006) considered several papers on mental health and concluded:

While impressive in their variety and scope, not a single theory [...] has been adequately tested empirically, and most studies have returned equivocal or conflicting results when the necessary testing has been attempted (Kruger and Serpell 2006:44).

Crossman and Kazdin (2015:332) raise concerns about the efficacy and future of human-animal interaction as therapy in the face of media representations '[c]aregivers of children with autism spectrum disorder are vulnerable to overstated benefits of interventions, and such overstatements are common with interventions involving animals.'

The media show a disproportionate interest in autism as cited above and adding animals appears to make it even more appealing. Films about children overcoming the odds by their relationship with another species are more entertaining than the cold hard facts presented in research. I was struck by the number of web sites advertising EAA that showed smiling children with body and facial postures that were easily read as happy or relaxed. That is not typical for autistic children. The Horse Boy Foundation founder Issacson rides without a safety hat in these pictures, enhancing the perception of how safe and willing the horses in his program are. The scientific 'evidence' presented on the web site uses rousing terms such as 'cell danger response, oxytocin, and Purkinje

cell' all of which give a false impression of scientific rigor. Yet researchers continue to query such evidence.

A recent systematic mapping review by McDaniel, Peters and Wood (2017: 3220) focused on studies relating to EAA and autism. Their research found that EAA 'offered broad proof of concept' but to extend the field [of EAA], research should be 'focused on standardization, appropriateness, and efficacy'. Critiques of EAA research convey what the authors suggest are inadequacies of the methodology and interpretation of results. This reflects the blurred position of EAA in human-animal research as stated above.

Anestis et al. (2014) conducted a systematic review on EAA and found that:

The empirical literature on equids-related treatments for mental illness [sic] is limited in scope, the studies that exist are compromised by multiple methodological flaws, and there is no consistent evidence that the treatments afford benefits beyond those offered by the passage of time (Anestis et al. (2014:1127).

Their findings are concerning in view of the growth in EAA for a range of different psychological conditions including autism (McCune et al. 2017:136).

The link between interaction and outcomes have not been given enough attention and perhaps less positivist research could offer explanations for this.

Dingman worked for many years with autistic children and horses using her program 'Mane Streaming.' She came to the conclusion (from firsthand experience) that 'the relationship between children and horses is very real... and is therapeutic' (Dingman 2008:12). Using a positivist approach to research her program would not measure the interspecies relationships and it is this that she believes is key to success (Dingman 2008:12). Maurstad et al. (2013)

chose the medium of a multispecies ethnography to demonstrate the relationship between horses and their care givers. They suggest that multispecies ethnography 'throw[s] light on fine and important nuances in interspecies relating.' (Maurstad et al. 2013:334). During the history of autism research, the study of nuances in live interactions produced seminal work such as Wing (1981) discussed above. Adding equids into the mix calls for a similar approach in EAA research so that the whole picture, nuances included, is better understood. Herzog (ISAZ 2016) added to the critique of EAA research at the publication stage. He suggests that there is a publication bias; a tendency for researchers to 'file away' research that does not show statistical significance or that shows a negative result. He urged publishers to balance the research body by making these studies accessible.

Critiques of EAA research have focused on methodology and interpretation of outcomes but Kendall et al. (2014:81) took a different approach. They suggested that methodology should stem from the hypothesis being measured and not the model of practice. In this way the research could focus on the mechanism for the outcomes. They reviewed 30 studies to establish themes that would consolidate further specific enquiry. Their review generated three hypotheses: (1) the psychological benefits are unrelated to the horse; (2) the horse provides a particularly positive context within which (human) psychological gains are facilitated; (3) the horse itself has specific therapeutic qualities that bring about unique changes not otherwise likely to occur.

The first two hypotheses would account for some of the positive results from the existing research body even if external variables separate from the equid were controlled for. The third hypothesis would clarify that the equids themselves were required to bring about changes in the children.

Wuang et al. (2010:113) inadvertently tested these hypotheses in a riding scenario using a novel approach that did not include equids. They used a simulated model for autistic children to ride during their occupational therapy sessions. They found that after 20 weeks the children showed improved motor proficiency and sensory integrated functions according to their test-re-test methods. Again, there was no measure for any other incidental benefit or occurrence because their methodology didn't offer the flexibility to capture it. Their 'horse-riding' simulated program borrowed many traits from equids but they were merely models. Their human participants were between 6 and 9 years old with an autism diagnosis but information as to the children's understanding of the model as not-real or real is not given. This study offers an interesting addition to the research body because it provides evidence for EAA but without the equid. It shows that results about riding benefits could be attributed to several other variables; therefore, assuming that the equid brings about changes is premature using the test-retest methodology presented. Chapter 5 presents my own inquiry as to the importance of the equid in EAA. This thesis, in part, supports the third hypothesis proposed by Kendall et al. (2014:81). I am not attempting to measure the equid's 'specific therapeutic' quality but I am advocating that we measure the quality of their engagement with their human dyad partner. In the next section I present an additional criticism with the research body, the lack of importance given to the equids. Watching many interactions at the Donkey Sanctuary centres revealed that the 'other' being in the research, the equids, greatly influenced session outcomes.

## **Interspecies interactions will affect outcomes of EAA**

Not only were the benefits of EAA entangled with numerous variables such as environment, type of model and number of other adults present etc., the 15 research papers were anthropocentric. Following the linear taxonomic model presented above reflected in the research that only reported human benefits.

Child psychometric test changes fail to capture the quality of engagement between the human and equid which from my observations were crucial to the outcome. The benefits cited in Table 1 only include improved (human) communication.

Krebs and Dawkins (1984) said communication

..is often a two-way process, a repeated exchange of signals by which two or more animals can evaluate each other's feelings and thoughts as well as their likelihood of behaving in various ways (in Griffin 2001:164).

For an improvement in communication to occur, assuming communication is generally a two-way process, autistic children in the research would have been communicating with an experimental 'other.' This other (presumably the equid) and their responses would impact on the interaction like any other communication exchange irrespective of species. In a riding situation it seems that the child would have ample opportunity to communicate and be communicated with by either the human side walkers who protect the child from falling off, or the human session leader who generally stays in the middle of the arena. Therefore the catalyst would be someone other than the equid and not controlled for. Would the child simply using a verbal or physical prompt have been enough to cause a measurable increase in communication as Borgi et al. (2015:3) identified? Even in a situation where ground or barn activities occurred,

was it the equids per se who had the potential to improve social interaction or communication? Or were the other humans supporting the session a motivating force for access to equids and improved social interaction? There seemed a number of entangled variables not accounted for in the existing research.

Hameury et al. (2009:655) reported that '[w]ith his or her pony the child is stable, calms down, adjusts his/her interactions, is more aware of the effects of his/her actions, and optimal sensory integration can take place.'

Could the child exhibiting more awareness of the effects of their actions be attributed to being with the pony? What if the pony had adjusted his or her behaviour to accommodate the unstable child resulting in s/he unconsciously relaxing in response?

Clearly some equids may be more responsive during interactions than others and some children may respond well to equids whereas others may not. Autistic people and equids are not a homogeneous group, so if one assumes that both have individual characters, one should not presume that interspecies engagement would be the same for all autistic people or all equids irrespective of the other variables.

It is acknowledged that some well-managed programs for EAA match human to equid depending on both individuals' characteristics and this is demonstrated in the PATH research cited in Ward et al. (2013:2193). Would this matching of interspecies characteristics be enough to assume that outcomes were a result of interspecies engagement? PATH consider the welfare of equids in their programmes at the industry standards level but like other providers, their main focus for EAA outcomes is on the humans.



The Donkey Sanctuary Interaction Centres exist as part of the greater charity. One of the purposes for funding this research was to ascertain if benefits of EAA extended to their donkeys. Similarly to children, equids may also enjoy an extension of their social curriculum with additional interaction with favoured staff or equid companions, additional food, grooming or rewarding husbandry prior to or after each interaction. Ultimate benefits include regular veterinary attention and high and consistent standards of care but what of their actual interactions with children? To determine this, EAA methodology demands flexibility to capture the responses of both species whilst interacting. Designing research that measures responses of two species simultaneously poses a challenge and it was not surprising that the literature did not reveal any. However, researchers had developed methodologies for measuring real-time responses of other animals that could offer a starting point. Wemelsfelder's (2007) human-animal research was unusual because it treated other animals as subjects and not objects. She designed and validated a tool to measure animal expressivity and subjective experience. The Quality of Behaviour Assessment (QBA) identified the potential for measuring real time responses of equids that could complement a similar tool for children (Wemelsfelder 2007: 25). This tool had been refined for several animals including donkeys (Minero et al. 2015: 147). Using the QBA descriptors one could postulate: would a person respond differently to an equid showing 'apathetic' or 'uncomfortable' behaviours, to the same equid showing 'curious' or responsive' behaviours? Simultaneous analysis of interspecies interactions would identify the impact of how one participant affects the other and if the impact was different depending on their species (see chapter 5).

It seemed an oversight that there was no apparent measurement of what actually went on between the child and the equid during the session, because presumably, there was an assumed trait in the equids that was bringing about the proposed changes in the autistic child. Otherwise, what was their role? I re-evaluated the research with an aim to identify studies that included the equids as equal or at least important participants.

Out of the 15 studies, five included Information about the type of equid (four horse and one donkey study) including age, breed etc. (Taylor et al. 2009; Keino et al. 2009; De Rose et al. 2011; Ward et al. 2013 and Borgi et al. 2015). Only two studies listed the equids under 'participant' or 'subject' sections (Keino et al. 2009 and Borgi et al. 2015). Although five studies briefly touched on the potential of the specific relationships between child and equid (Bass et al. 2009; Ward et al. 2013; Lanning et al. 2014; Gabriels et al. 2015; Keino et al. 2009) only two actually discussed it (Kern et al. 2011 and De Rose et al. 2001). None of the studies collected data from both child and equid during the interaction, although Gabriels et al. 2015:548 and Borgi et al. 2016:46 both alluded to the need to do so in the future.

Of all the research models included in the body of research, some enabled interspecies interactions easily, whilst others made it quite difficult because of equipment or people that participants had to navigate through in order to engage with each other. Some sessions were mounted and some were on the ground. Some models required several human supporters to circle the mounted child, so it was questionable whether the dyad partners knew who they were supposed to be interacting with. Thus attributing changes in the child to the equid was questionable without re-framing the methodology to include recording real-time interactions.

I began this precis of EAA by pointing out the blurred position of it in human-animal research and how the methodology may be flawed. Perceptions of the equid in the research body ranged between ‘tools’ to a possessor of special ‘powers’. Confusion about who the equid is within this branch of human-animal research has impacted on the efficacy of the outcomes and has been potentially misleading. Some of this confusion derives from the differing opinions about the sentience of other animals, particularly equids, and whether we have the science to show their capacity to form engaging relationships with humans. The next section in this chapter explores engagement between species and why it is so important to include the equid’s responses into EAA research.

## **Engagement**

Kendall’s third hypothesis—traits in equids bring about proposed changes to autistic children—relies on them connecting. Otherwise other variables would be responsible for the changes reported in the research. The previous section identified that a simulated horse could produce physical changes if the child ‘rode’ it (Wunag 2003:115). To change as a result of an interaction with a living equid, children are required to physically connect with them in the same way that they did in Wuang’s research. In EAA scenarios, they are required to mentally connect with them too. If equids are homogeneous tools, devoid of their own character, then the trait or ‘special thing’ that causes the changes in the child would be uniformly defined or observed following all of the studies on EAA cited above. This ‘special thing’ would likely be demonstrated in endless scenarios such as whilst being ridden, being next to a child who is surrounded by other adult humans or being opposite a child albeit held by head collar by

another adult. The research has not yet identified this 'thing' perhaps because there has not been an attempt to find it but most probably because there is not one single feature. The effects of EAA are more likely to be caused by a mixture of variables including the individual participant's motivation to engage with each other.

It was eminently possible that a small number of the participants in the research body, as well as ones I had observed at the Donkey Sanctuary, did not actually engage with equids at all. A lack of engagement would signify that the equid per se had not brought about changes to the child as suggested in the second hypothesis of Kendall et al. (2014) as cited above. It became apparent that a clear definition of engagement appropriate for both autistic children and equids would better inform conclusions from observations of interactions.

There was a surprising lack of clarity that defined engagement for autistic children in the literature. It is perhaps more difficult to measure because of the variety of trait manifestations including social interaction diversity. The former UK Special Schools and Academies Trust (SSAT) commissioned an engagement scale for special school children because they felt that 'engagement is the single best predictor of successful learning for children with learning disabilities' (Carpenter et al. 2011:34). They suggested that 'the process of engagement is a journey which connects a child and their environment (including people, ideas, materials and concepts)' (Carpenter et al. 2011:34). If the 'people' element of their definition included all animals, human or otherwise, a clear demonstration of connectedness between children and equids would reveal the evidence sought to show child engagement. Their report highlighted that children with autism approached engagement with

another person through a cloud of sensory stimuli that is highly dependent on their developmental and cognitive state. It was common for children in my former special school to lick, smell, squeeze or bite a hand offered to them as an engagement greeting. While unnerving to the owner of the hand, it was simple exploratory behavior. If the child was happy with their sometimes lengthy explorations and the person allowed it to happen, they would then chose to remain or leave the interaction. If the person withdrew their hand quickly, a natural reaction to being 'mouthed,' the child could become quite frustrated and escalate other behavior to better understand the situation. The school Occupational Therapist likened their experience to a non-autist being presented with a tiny kitten and being told only to listen and not to look or touch him or her (pers. comm.). The sensory perception or developmental learning delay of autistic children results in atypical engagement behavior (Stevenson et al. 2015: 691). Some children had learned that their explorations were not always welcome and their encounters looked quite different. They would freeze and not look at the person at all, giving the impression of non-interest. I knew from experience that these particular children required much longer processing time that included assessing if the other person was safe. My advice to teachers new to these children was always to allow them time and not to interrupt their processing by continually attempting to engage with them. More often than not the child relaxed once they had perceived the situation without interruption. Carpenter et al. (2011:35) suggested that engagement could be measured on a scale with seven cumulative engagement indicators. These reflected children's various developmental levels: awareness (or responsiveness), curiosity, investigation, discovery, anticipation, persistence and initiation. It seems obvious that unless the child is aware of the other, they wouldn't be curious or

initiate engagement, but judging that required a very good working knowledge of the child in several situations. I interpreted this scale as a measure of engagement that could be applied to several scenarios for the child but that may not always place them at the same level each time. The sensory sensitivity that some autistic children experience can create huge levels of anxiety that block any other processing during that time. Sarah Hendrix, autistic consultant and author, said that autism is a neurological and cognitive difference that almost certainly predicts anxiety which is entirely expected (Hendrix 2018: np). Hendrix gave several examples of when she was overwhelmed by sensory sensitivity in social situations that rendered her completely unaware of who was in the room. She pointed out that as a highly cognisant individual, she has no control over her anxiety and this would be amplified hugely for children with no verbal language expression coupled with learning difficulties. On Carpenter et al.'s scale, during 'melt down' Hendrix would be un-responsive or un-aware of others but at the conference, with all of her coping strategies in place, she was at the higher end of the scale and was able to initiate engagement with a large audience.

Kishida and Kemp (2006:101) also devised a scale to measure engagement for children with an intellectual [sic] disability. Their scale measured levels of child engagement with a teaching task. The interesting findings from their study was the differing levels of motivation for engagement between individual children. If the pattern was similar in the EAA research, equids may represent a higher motivator for some children over others.

Motivation to engage plays a large part in all interpersonal relationships. Temple Grandin rightly pointed out that animals are not things and that they have

feelings and emotions (Grandin 2002:1). They are animate and interactive and have preferences and dislikes. Interactions between autistic children and equids are dependent on either member of the dyad's motivation to engage. In one of the EAA studies cited above, De Rose et al. (2011) acknowledged the importance of the interspecies relationship in EAA. Although they did not measure the equid's responses, they demonstrated that 'the stronger the emotional bond [between donkey and human] the greater the beneficial results' (De Rose 2001:391). Maurstad et al. (2013:330) elaborated on the connection between equid and [non-autistic] human and suggested that species domesticate each other through being together but that the depth of the bond varies. To assess the fidelity of EAA, engagement of both participants in a dyad must be factored into the analysis.

Measuring interspecies engagement does not have to be as methodologically difficult as it seems. Byrne and Bates (2011) presented the case for carefully recorded observations from the field to build and test theories. These they argue 'are necessary to enable appropriate, ecologically valid experiments to be designed where experimentation is subsequently possible' (Byrne and Bates 2011:619). I was unable to find any research about equid engagement during EAA. Equid research tended to focus on intra-species relationships usually presented in an evolutionary context. Observations of donkeys and mules at the Donkey Sanctuary coupled with observations of my own horses revealed many similarities with non-verbal or pre-verbal autistic children. Equids take time to assess a new animate or inanimate other. The smelling, licking, touching behavior of some of my previous autistic children is also seen in equids. There is also huge variety in type and motivation to engage amongst groups of equids. Horse folklore suggest horses unwilling to be caught should not be approached

directly. Moreover the 'catcher' should be nonchalant and attempt to distract the horse by pulling at grass until s/he approaches. This is equivalent to allowing enough processing time for autistic children to assess if the 'other' is safe.

Equally donkeys, mules and horses required to lift their feet for cleaning should be prepared with a signal of reference and given time to process otherwise their behavior may escalate. This is comparable to the common practice in schools of preparing autistic children with physical symbols such as picture signals prior to requesting something or before touching them.

To be able to identify engagement between participants that is genuine and not a result of coercion, both participants should be free to interact from their own free will. The expressions and diversities presented by autistic children and equids require space and processing time to develop. Ingold (2000:307) used the term 'tools of coercion' to describe training aids that force other animals to conform. An example of this in EAA is the use of head collars or ropes that force the equid to stand close to the child. In a riding situation, the equid wears a saddle and a bridle and the child is often supported by side walkers. This scenario would make interspecies engagement very difficult to observe and would also not represent the free will of either participant.

Even with the freedom to approach or retreat, purposeful engagement relies on each partner having awareness that the other is in fact an agent like they are. This is called intersubjectivity and is the foundation to any human-equid interaction.

The measure of live engagement was lacking from any of the studies that I cited above. In chapter 5, I present the tool that I designed to capture engagement and the resulting findings.



## **Human- Equid Intersubjectivity**

Hurn (2012: 126), suggests that intersubjectivity

...occurs when individual actors consciously recognize and attribute intentionality to each other. As a result there is a requirement for actors to be self-aware, conscious beings if they are to participate in intersubjective exchanges.

Simply put, intersubjectivity is when one agent (donkey or child in my example), has awareness that the other is an agent like them. Intersubjectivity doesn't always lead to a happy ending, being aware of another is not the same as wanting to engage with them. Nonetheless, it is the precursor to any type of conscious engagement between dyads.

Remarkably, this does not require sophisticated cognitive reasoning abilities because it is innate and present at birth. Extensive observation of new-born baby and mother pairs in the 1970's revealed that babies were born with the ability to imitate or mirror their mothers (Trevvarthen 1979: 321). Babies track faces, particularly eyes, and respond accordingly. Rochat et al. (2009) suggested that babies are

[B]orn perceptually prepared to capture and eventually develop a sense of shared experience [and are] certainly not born caught up in a solipsist experiences and shut off from their social world (Rochat et al. 2009:175).

Most mammals, including equids, are born quite helpless, so the ability to distinguish a potential care-giver from a tree, for example, is quite a useful instinct to have.

From birth to two months Trevarthen found that babies simply mirrored their mothers and the recent neurobiological discovery of 'mirror neurones' in the brain of humans and other animals explains the mechanism for this innate ability. These mirror neurones are located in the premotor cortex of many mammals in various quantities and fMRI research identified that they fire when watching another do an activity. They provide the neurological explanation for imitation and understanding of another's action (Bekoff 2007:128; de Waal 2009:116). Lacoboni (2008:653) suggested that this mirroring 'solves the "problem of other minds" (how we can access and understand the minds of others) and makes intersubjectivity possible, thus facilitating social behaviour.'

Babies do not need to know the care giver's internal mental state to be proficient at mirroring them, they just need to be able to focus on the other's face.

Trevarthen found that mirroring was reciprocal up to nine months but then babies appeared to demonstrate expectation and predictability from social exchange; for example showing distress if the mother didn't smile in response to them (Rochat and Striano, 1999:206). After nine months when babies become more mobile they begin sharing attention and intentionally gain the other's attention. This appears to be the point of conscious intersubjectivity. After twenty months children develop a more sophisticated type of intersubjectivity. They experience emotions such as guilt or embarrassment as part of their relationship with the others. They start to understand how the other may perceive them and then internalise that feeling (Rochat et al. 2009:175).

The research on human babies identified that Intersubjectivity was a developmental process which eventually led to children of four or five years old

having an understanding that other people may think differently to them. It is a long-held belief that children with autism struggle to understand others' perspectives, which is described above as an impaired Theory of Mind. This does not mean that they are unable to develop intersubjective relationships, indeed Baron Cohen (1989:285) reported that perceptual role taking is intact in children with autism. I would suggest that reframing 'impaired' to 'diverse' would capture better how autistic children perceive another's view point. Guedes and Vaeanda (2016:1) mooted that children with autism may have impaired or missing mirror neurons which, they say, could explain the claim that these children have a lack of empathy. There is no physical evidence to suggest that autistic children lack mirror neurons and chapter 4 presents examples of children mirroring donkeys. Their proposal does, however, raise an interesting point. Jumping from mirror neurons to empathy misses the developmental journey that children take. Mirroring is a part of the development of intersubjectivity that may lead the child to engage with another which in turn could create empathy, or not. Knowing another is an agent like you in non-autistic people does not always lead to empathy.

Children with autism equally develop instinctive intersubjectivity but this does not necessarily lead to comparable sociability development like their non-autistic peers. Returning to Carpenter et al.'s (2011:34) engagement scale, it is easy to see how awareness (or responsiveness), the first level, requires the child to have developed intersubjectivity prior to engaging with another being. Some autistic children with severe learning difficulties may not show awareness or be responsive to others. In EAA, a lack of interaction whatsoever would challenge the certainty that the child has recognised the equid as another being.

Again, any psychometric test changes gained after EAA could not be attributed to the equid if the child has not engaged at all.

And what of non-human animal intersubjectivity? I am arguing that the role of the equid must be participant, important and valued as much as the humans' and that intersubjective beings respond to each other, albeit in differing species specific ways. If children must develop intersubjectivity to engage with equids, then the same must be true for equids.

de Waal (2007: 62) also discussed the journey from imitation via mirror neurons to empathy but for non-human animals.

The evolution of empathy and imitation runs from shared emotions and intentions to a gradual "unblurring" of the lines between individuals. The own experience is increasingly set apart from the vicarious one, even though both reside within the same brain and body. This process culminates in a cognitive appraisal of the other's behaviour and situation: we adopt the other's perspective.

Researchers who observe non-human animals for long periods of time recognise that other animals across and within species contain their own version of intersubjectivity which is not restricted to their own species:

On the contrary, some individuals, including some humans, find it easier and more intuitive to be able to empathize with, understand and recognize the personhood or subjectivity of members of different species (Hurn 2012: 160).

This is a bold but growing approach to understand the inner lives of other animals who in the past, have been considered solipsist and described in terms

of evolutionarily fitness. Fear of anthropomorphism has prevented scientists from seeing what was in plain sight and dismissing it as 'folk nonsense' (de Waal 2016:4). If one of my horses ran away at the first sign of the vet, I would know she didn't want to be hurt. I would know that she recognised the vet from a previous negative experience and I would be confident to say that she didn't run away to preserve her genes for the next generation. She didn't want pain or discomfort and I know this for certain without understanding how she thinks in horse terms. Bekoff and Pierce (2010) provided another interesting example.

So, when Lupey, a male wolf, invites Herman, another male wolf, to play, we can only infer that Lupey wants to play and that Herman knows this and also wants to play. However, armed with detailed knowledge about social play behaviour in wolves, we're able to make extremely accurate predictions about what follows when Lupey solicits play from Herman. In wolves and other animals, their public displays reveal a lot about what is happening inside their heads and there really isn't that much guess work (Bekoff and Pierce 2010:44).

They did not pretend to know exactly what it was like to be another species but suggested that we can make informed predictions. Without intersubjectivity, Lupey may have repeatedly invited a tree to play and wondered why it wasn't much fun!

Donkey foals 'play' with other foals and adults take part in mutual grooming sessions (Svendsen 1986:166; McGreevy et al. 2009:12). From this information we can make an accurate prediction that intersubjectivity (specific to their species) is present from birth for foals. Jakob von Uexküll an Estonian-German biologist described the inner world of animals in 1926, defining their perception

and senses as 'Umwelt' (in Brentari 2015:1). A contemporary of Darwin, Uexküll presented a logical theory that non-humans, like human animals, perceived the world in their own perceptual way and responded accordingly. An equid's Umwelt would reflect their sense organs and brain structure and although this cannot really ever be known by humans, de Waal (2016:7) suggested that it should not mean that we dismiss its existence. To strengthen this point he cited Heisenberg (1958:25) 'What we observe is not nature itself, but nature exposed to our method of questioning' (in de Waal 2016:7). The observations of autistic nonverbal or pre-verbal children and donkeys presented in this thesis reflect Heisenberg's statement. I am interested in observable interspecies engagement, a result of the participating species' specific Umwelt but also if participants recognise the differences in each other's engagement behaviour.

Donkeys' ears are very expressive and their size makes it quite apparent when they are moving one or both to track another person aurally. With other contextual factors combined with ethological knowledge of the species, it is fairly straight-forward to observe if ear movements are showing curiosity or if they are a threat. The ear position would then reflect the type of engagement likely to occur. My observations at the Donkey Sanctuary revealed many instances of donkeys sniffing the child by the flare of one or both of their nostrils. Engagement was sometimes a slow subtle process that required will-power from the adults observing who wanted to follow their natural instincts to facilitate. When the children or donkeys were ready to engage it was generally with touch or sniffing that drew attention to a potential middle ground to their Umwelt's. Some children were quite overt when they were sniffing the donkey and smell appeared to play a much more important part for both species perception than I could actually ascertain without odour-detecting technologies.

There is a lack of research on the importance of olfactory sensory perception and communication between humans and non-human animals. Smell occurred several times in my field notes and could easily lead to 'appropriate, ecologically valid experiments' with the specific technologies as suggested by Byrne and Bates (2011:619) above. For this research I stayed away from the importance of smell in interspecies engagement in the interests of time and resources.

I would like to conclude this chapter by discussing the potential equids have for understanding emotional intent of other species. Recent research presents a probable case that horses understand human emotional states. Smith et al. (2016) found that horses recognise and respond to some emotional states in non-familiar humans. They found that horses 'spontaneously discriminate between positive (happy) and negative (angry) human facial expressions in photographs' (Smith et al 2016:12). This research compliments anecdotal accounts of horses knowing when a new rider was scared or donkeys refusing to approach the human if they are in a hurry to catch them for something. The implications of Smith et al.'s research lends support to equid responses being crucial to the outcome of EAA sessions.

This thesis does not attempt to measure the intersubjective experience of autistic children or donkeys, it acknowledges that there are differences and this could affect how participants engage with each other. Neither have I assumed that engagement between participants reflects an identical or shared mental state. Indeed, Susswein and Racine (2008), question the concept of 'shared mental states' as a descriptor of intersubjectivity. They suggest that 'perhaps manifesting pleasure or interest in coordinated interactions' is a more accurate description (2008: 144). Autistic children or donkeys engagement shows that

they have awareness of the other but it does not indicate if they know that the other's agency or Umwelt is different to their own.

This chapter introduced autism and the equids who form dyads in EAA. The methodological weaknesses and counter arguments presented are in response to findings about 'benefits' from empirical research. Ensuring that diversity of character is accounted for in research methods for both species, would offer a sounder basis to draw conclusions from.

The next chapter explores perceptions of EAA by humans who interact with equids. A recent international symposium for equids' welfare and wellness, held in Sweden (August 2018), showcased the findings of academic and non-academic EAA research. There was an interesting schism in delegates who supported the 'scientific' approach that was very factual and cautious and the presenters who used terms like 'spirituality, energy fields and essence.' Ironically, some of the findings of both camps were very similar but the language used to present their findings was very different. This is typical in EAA. The interpretation and presentation of beliefs about EAA is very dependent on the position of the presenter. I was concerned that misrepresentations, or simply assumed knowledge regurgitated, could influence perceptions about the outcomes of EAA and it was important to investigate it.

In the next chapter, I explore the positional authenticity of trainers, practitioners and the media from their own perspectives to explore the rhetoric surrounding EAA and to address the call for a more efficacious methodology that includes and presents equids accurately.



### **Chapter 3. Perception about Equid Assisted Activities; reflections on the positional authenticity of trainers, practitioners and the media.**

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#### **Questionable Representations of Reality**

Throughout the course of this thesis I have spoken with many individuals who extol the benefits of EAA. My own personal observations have sometimes concurred with the positive, anecdotal evidence presented by several users and their families. The methodological weaknesses presented in chapter 2, combined with the blurred position of EAA, do not negate the benefits perceived by stakeholders. Chapter 4 presents several accounts from families and grooms of participants that describe how the interactions have been beneficial to them as individuals. There was a marked difference in the language used to describe benefits by families from that presented by some EAA establishments and other media. After spending weeks co-immersed with families and grooms during EAA sessions, I found that the language of some of the media that the families and I had read were aggrandized or were based on metaphor that could be misinterpreted. Families offered insights about their children by using sentences such as ‘we have been really looking forward to coming again this week,’ ‘coming here really de-stresses us all’ and ‘[donkey’s name] doesn’t seem himself, or maybe we are too much for him today.’ Conversely, the ‘Equids Therapy Centre’ suggested that ‘through self-regulation and mind and body awareness we can learn to embody the process of enhancing our lives so that we can learn to trust and fulfil our potential’ (ETC website 2018). Other websites used similar language that summed up the principles of what they believed EAA offered humans but I rarely saw or heard similar explanations from participants’

families. This did not come as a surprise because of the blurred perception of EAA in research (see chapter 2) as a whole.

The conversations that I had with my participant families were often happenstance and not part of interviews but offered rich data. Bewley (2002) suggested that these types of informal opportunities for collecting data are important if

...the objective is to understand the shape of a general phenomenon with a view to formulating new theories, then the style should be less structured in the hopes that the respondent will come up with unexpected descriptions and arguments. In either case, it is important to allow informants a great deal of freedom (Bewley 2002:343).

During some of these more poignant conversations I tended not to reach for my notebook to write down their words verbatim for fear of disturbing the flow of their thoughts. Thus my notebook contained paraphrased anecdotes from my memory of the conversations that reflected Bewley's (2002) description of the unexpected. Aronson (1995:2) suggested that paraphrasing common ideas as well as structured interviewing is an essential part of capturing themes in data. From my experience, families of autistic children are accustomed to answering questions from professionals. As a school principal I was often aware of 'stock' answers, honed specifically to ensure a desired outcome. For example, I often asked families how their child's autism manifested itself in their day to day living. A stock answer would be long-winded and generally included a precis of the structure of a day from morning to night. These answers would tend to be rather formal and contain examples of how autism manifested itself behaviourally and physically. In contrast, when I asked the same question in the

context of EAA, answers were much shorter and different to what I expected, which concurred with Bewley (2002:343) above. Two example answers that illustrate a common theme were: 'Well, we can't really go where other kids are because of the mayhem we cause,' 'We tend to avoid shopping or day trips as a family and stick to quiet places.' One parent said that they had created an autism-friendly house which meant that their son 'was pretty much ok at home but without this sort of place [EAA centre], we wouldn't really go out much.' I wrote their comments in my notebook and added that to me, they felt spontaneous and different to the answers that I was accustomed to when I was in a position to offer them a school place or approve access to other professionals. My own feeling was that these informal conversations were honest and shared a real insight to their lives. By paraphrasing common ideas as Aronson (1995:2) suggested, I was able to observe similarities in parents' desires for a safe place to take their children where they would not be judged.

### **Positional Authenticity**

Something that became quite apparent during this research was the different ways that both autistic children and equid intentions and behaviours were perceived depending on the positional stance of the person. Parents, families and grooms presented their views of what they believed to be true from their own perspective. The same was apparent for EAA media who, I felt, were not attempting to be dishonest, moreover their knowledge was presented as authentic from their own organisational standpoint.

Cohen (1998) tackled the problem of various versions of authenticity, albeit in a different topic area (tourism). He posited that authenticity has a 'socially

constructed nature...' (Cohen 1998:374). I identified with Cohen's paper because in it he suggested that

Anthropologists, like curators and ethnographers ...appear to entertain more rigorous criteria of authenticity than do ordinary members of the [...] public. They belong to the wider category of modern, alienated intellectuals- indeed, their alienation from modernity often induces them to choose their respective professions' (Cohen1998:376).

By questioning EAA media about their version of the capabilities of equids and how it affects people, I also became at risk of alienation. In the previous chapter I presented what I believed to be a flaw in the evidence of EAA research: not including equids as active participants and the overuse of psychometric tests to measure benefits. This flaw meant that the actual engagement between participants was overlooked. I had become accustomed to rigorously scrutinizing accounts of EAA based on the research body and this extended to media. In completing the research in this chapter I was mindful that my own version of authenticity may be based on my experiences and expectations of academic rigour.

It follows that intellectuals and other more alienated individuals will engage on a more serious quest of authenticity than most rank-and-file members of society. It is hypothesized further that, the greater their concern for authenticity, the stricter will be the criteria by which they conceive of it. (Cohen1998:376).

I was at risk of assuming that the stories presented by families or grooms were more authentic than by EAA media because I had not taken into account that authenticity was socially constructed (Cohen 1998:374) by a variety of social

actors. The difference in language presented from informants and media sources was not a difference in the magnitude or purity of their 'truth'. It was simply their positional authenticity.

Handler (1986) presented a powerful view of authentic notions created by researchers. He proposed that authenticity was in fact a 'cultural construct of the modern Western world... Our search for authentic cultural experience - for the unspoiled, pristine, genuine, untouched and traditional - says more about us than about others' (Handler 1986:2). Thus authenticity in the context of this chapter is presented as positional, depending on who presents it. I was not pursuing the untouched or traditional as suggested by Handler, but seeking how my informants came to understand their knowledge about EAA as authentic. Stories presented by families and EAA media were based on their social or cultural knowledge. However, EAA media also reflected their commercial and positional standpoint.

An example of a family story consisted of a mum whose child 'knows the donkey is kind' or another who asked 'do you worry if the donkey actually likes doing this for her [daughter], I'm not convinced?' A young autistic boy often arrived at one of centres shouting and banging his hands against his ears. His teaching assistant confided that she looked forwards to the sessions every week so that 'he can get some peace.' I pressed her on what she meant by peace and she explained that to her, the donkeys represented symbols of peace and she could see that she was right by 'the way the donkey chills him out every time.'

There is something moving about observing a distressed child that cannot be soothed who becomes immediately absorbed with an equid on first sight. It

didn't happen often and I certainly wouldn't suggest it was common. On one such occasion, a dad was dropping his son off to a Saturday club at a centre. I took the opportunity to ask him why he felt the child was so quickly soothed when he was with his partner donkey. His response spurred this chapter:

Well, I don't really know to be honest. My wife watched all those films about miracle animals that help kids like him but I think they are farfetched. One of them said that the horse reflects the emotions back at the child, you know, like a mirror. Well if the horse [or donkey in this case] is a mirror, how come he isn't galloping around the place *eeooring* his ears off like my boy? (pers. comm.)

He had a very good point. I guessed that parents and families would probably not search out academic research papers for evidence of EAA. They would often get their knowledge from staff at individual centres, media or advertising.

Another trend that I discovered came from concerned grooms who felt that some parents or school staff had quite confused views about the abilities of equids. They blamed their confusion on gossip from 'unrealistic expectations from books or films.' The mum who enquired if the donkey actually liked the sessions identified as an animal activist. She felt uncomfortable that the tantrums that her child sometimes had would frighten the donkeys. In her opinion the tantrums were not part of the photos or videos that advertised EAA and she wondered if she had been sold yet another 'dud autism story'. An additional parent who was also involved in the conversation reassured her that 'they [equids] would understand because they would know that [the child] has special needs.' I probed her further to ask how she knew that. She replied that 'the donkeys wouldn't do it if they didn't like it... they are natural born healers.'

The information that she had proffered to us came from a book she had read about a child with autism and a horse. She couldn't remember the title but it was 'all about how they love children particularly special need ones.'

I felt uncomfortable that this particular parent had gleaned her dubious knowledge from questionable sources and that it was being reiterated to other parents. Her child was particularly fond of his time with the donkeys and she had no other experience to compare with. Rupert Sheldrake is a well-known parapsychologist researcher and his work includes examples of various non-human and human animals who show psychic ability. The parent whose sentence 'donkeys were natural born healers' that rolled off of her tongue so confidently reminded me of some of Sheldrake's psychic animal supporters (see Sheldrake, Lawlor and Turney 1998:57). An infamous study of Sheldrake's was his psychic dog research that apparently revealed a dog whose behaviour changed moments before his keeper returned home (Sheldrake 2000:233). Sheldrake's theories were appealing to the wider public and have been the subject of media claims, but they have also been criticised for poor interpretation of results (Wiseman, Smith and Milton 2000:46). Prior to the 2004 tsunami that devastated parts of Asia, Sheldrake suggested that elephants in 'Sri Lanka and Sumatra moved to high ground before the giant waves struck; they did the same in Thailand, trumpeting before they did so' (Sheldrake 2005:1). He argued that paying closer attention to animals would be a better way of preparing for earthquakes (Sheldrake 2005:1). Hanson, deputy managing editor for physical sciences at the journal *Science*, responded to claims of animal psychic powers prior to the tsunami when it was featured on Fox News: "It's an urban legend...Different people feel earthquakes differently, so maybe animals could, too. But a tsunami? No way. ... I have heard rumours

that none of the animals were killed, but how do they know that? Did they take a census?” (Donaldson Evens interviewing Hanson, 2005: np).

Supporters of Sheldrake’s psychic animal theories (2000:233) and his critics (Wiseman, Smith and Milton 2000:46) provide examples of how authenticity of a concept is dependent on the position of the person making judgment. In this case, the argument drawn from the perceived authority of science (criticism of Sheldrake’s experimental robustness) does not represent the strongest in law. It reflects Wiseman, Smith and Milton’s (2000:46) belief in the importance of correctly administered (and reported) scientific enquiry, and the lack of credibility without it. Supporters of Sheldrake’s theories are not necessarily misinformed, but appear to rely less on scientific robustness when taking their position on the matter. Bouvet and Bonnefon (2015) offer an explanation of how readily some people accept the psychic animal theory. They found that non-reflective thinkers are predisposed to attribute supernatural causation to uncanny experiences. They suggest that that ‘cognitive style is critically important after one experiences an uncanny event that seems to invite a supernatural explanation (Bouvet and Bonnefon 2015: 955).

Examples of other species *knowing* about humans is a common theme in EAA media and this appears to have influenced some of my informants. A teaching assistant informant suggested that ‘donkeys clearly offer a safe space to our [non-verbal autistic] children. They [donkeys] seem to understand them without judging. They just look at the kids and know.’

Was she a non-reflective person (Bouvet and Bonnefon 2015: 955) or was she simply following the rhetoric about EAA that she had heard from other people? Throughout the course of my fieldwork I often heard people describe donkeys



as being non-judgemental so it is highly possible that she had heard that phrase and did not seek a further explanation for what she saw.

The knowing of equids also includes the belief that they offer something emotional or spiritual back to humans. In the book 'The Tao of Equus', Linda Kohanov (2001), founder of Eponaquest, wrote about her own healing experience from horses. She offered multiple examples of how she and her healing horses restored people with serious emotional problems back to health (Kohanov 2001:243). She wrote:

...the Taoist thread running throughout my book is the unifying factor in explaining how these animals nourish their riders physically, mentally, creatively and spiritually while inspiring increased sensory and extrasensory awareness in people from a variety of backgrounds and belief systems (Kohanov 2001:xxiii).

Kohanov's portrayal of equids put me in mind of the cautionary tones of Donna Haraway (2003). She expressed concerns about misplaced human perceptions of dogs doing things for their owners out of unconditional love (Haraway 2003). She wrote: 'According to this belief, people burdened with misrecognition, contradiction, and complexity in the relations with other humans, find solace in unconditional love from their dogs.' This she strongly stated are 'lies and abusive to dogs and humans' (Haraway 2003:33).

Kohanov's rather flamboyant prose does tend to offer a rather anthropocentric view that begs the question; what does the horse get out of doing all of that?

I would not suggest that the examples from my informants presented above were potentially abusive beliefs about donkeys in the same way that Haraway suggested dog owners who share the 'unconditional love' belief are. However,

in the case of the statement presented above that ‘donkeys wouldn’t do it if they didn’t want to,’ I could understand how misrecognition of the donkey’s intentions and free will could lead to exploitative labour (Coulter 2016:81). Although it is seemingly socially acceptable for equids to perform EAA, Coulter proposed that the acceptance is fluid and ‘it is also shaped by what people know and do not know about animals’ lives’ (Coulter 2016:81).

I was reminded of both Coulter’s and Harraway’s work several times during conversations with some parents, school staff and grooms. These conversations about assumptions of animal psychic powers and unconditional devotion to humans were often in response to reading ‘evidence’ presented from EAA media. They were also assuming that all donkeys or horses were homogeneous and lacked individual character traits.

Some EAA advertising and associated websites use a particular rhetoric to extol the benefits of their services. Equids Assisted Growth and Learning Association (EAGALA 2018: np) utilise horses because they are prey animals who ‘instinctively analyze and react to our body language and other nonverbal cues providing us with valuable feedback and insights for other areas of our lives.’ The Counselling Directory who advertise many EAA groups state that horses have an ‘ability to read human emotion and their inherent honesty is perhaps why we look to them so often in times of distress’ (TCD 2018: np).

Crossman (2016) cautions that the language used in media reports such as “magic” and “miraculous” ‘has created the image of human-animal interactions (HAI) as a panacea for families of children with ASD (2016:33). During my research I met several parents who had quite unrealistic views from media and film representations. I present one such case study in chapter 4, whereby

parents were disappointed in the outcome of their child's EAA sessions because their expectations were built on popular media.

### **Teachers, Carers and Playmates**

Kendra Coulter is amongst a hand-full of scholars researching the idea of work and care in a non-human context (Coulter 2016; Donaldson & Kymlicka 2015). The type of work that equids have performed since the beginning of agriculture is vast (presented in chapter 1) but the emergence of equid work in EAA involves care and nurturing. Much of the care work people do with/for animals has commonalities with human-focused care work, including daily labour processes. Coulter (2016:200) suggests that these commonalities are feminization, low pay or lack of pay, and its uneven physical and emotional risks and rewards. She explored different kinds of care work 'performed by animals to recognize their labours as work' (Coulter 2016:202) and her research offers a new paradigm for thinking about what equids do for humans that is quite different from the image presented in EAA media.

A common held belief is that equids enjoy doing activities for human wellbeing thus it feels like a like a 'good thing' (Serpell et al. 2010: 481). Yet this is largely unsubstantiated and again dismisses the importance of the differences in character between individual equids. Some may take to their work better than others, but if we understand their contribution as labour and not as a presumed voluntary act, we may begin to question some of the rhetoric surrounding EAA.

The Red Horse Foundation (2018: np) introduce their horses on their web site and describe what they teach us. 'Brannan teaches us about positive leadership and the correct use of power... Jaffa is an absolute gentleman and teaches us

about gentleness, affection, patience and how to grow old very gracefully' (TRHF meet the horses 2018: np). The Red Horse Foundation sessions are facilitated by human mental health professionals and 'horse people.' I was unsure if their claims of what the horses taught people were presented as metaphor or a fact. Either way it was easy to see how non-specialists could be misinformed by the content of their web site. EAGALA training materials readily confirm their use of metaphors: 'when clients engage with horses, life metaphors emerge, which results in clients gaining insight to psychological issues' (from EAGALA 2015, cited by Fournier et al. 2018: 51). I was unable to find explicit reference to metaphor use on other EAA websites.

Serpell et al. (2010: 48) pointed out that consideration for any non-human animal may '...become morally problematical where there is a conflict of interests...' Equids working as care labourers provided an example of where a conflict of interest could easily occur in EAA. If there was an assumption that equids take part in EAA out of some empathetic or altruistic trait, consideration for their welfare or consent would be based on a questionable representation of reality. Did horses at The Red Horse Foundation who 'taught' people actually want to? Were they all willing participants? What training did they require and by whom to be such good teachers?

My four years of undergraduate study and another year completing a Masters of Education resulted in a possessive attitude towards the term *teacher*. Later, when I was a school principal I was bound by ensuring the teaching in my school was done to a national standard monitored by a government body. According to the Department for Education, UK:

Teachers make the education of their pupils their first concern, and are accountable for achieving the highest possible standards in work and conduct. [...] act with honesty and integrity; have strong subject knowledge, keep their knowledge and skills as teachers up-to-date and are self-critical; forge positive professional relationships... (Teaching Standards.gov.uk 2011: np)

The Red Horses sounded like interesting and benevolent characters but what conventions enabled them to teach? Perhaps a better term for the services provided by Red Horses would be 'what we stand to learn from them.' If they wanted to teach someone not to enter into their space they could follow natural behaviours such as head thrusting, stamping, biting (de Waal 2017:85) or even feigning these behaviours as a warning. People would learn what they were trying to convey and move out of their space. Or were they trained to be tolerant and socialised towards a more humanised behaviour acceptable to specific human interactions? In that case we would not really be learning from the horse but profiting from the behaviour that their trainer had instilled. Running Deer, a horse 'who teaches us about assertiveness, self-reliance and clear communication,' is an example of an interesting type of character.

Running Deer leads the herd with her mate Brannan. She is the look out, and always on guard for any changes in the environment, big or small. Deer is very assertive and responds only to those who mean what they say. Her leadership style is 'no nonsense', but she is very kind to those in need (TRHF meet the horses 2018: np).

Using Coulter's notion of labour of work (Coulter 2016:202) it is helpful to know Running Deer's herd behaviours to contextualise how much she alters her

behaviour during her care work with people. Was she trained to be 'kind to those in need' and if so would that represent an example of Serpell's (2010: 48) conflict of interests if her training involved suppression of her character? Or was her character when interacting with humans naturally different from when she was with other horses? Hurn (2012: 115) said of training: 'These skills are not necessarily useful to the animals themselves, but are a consequence of their domestication and subsequent enrolment within an anthropocentric world.' Was Running Deer's training more useful to the humans that she worked with than to herself? Serpell et al. (2010) discussed training in his chapter on 'Welfare considerations in therapy and assistance animals'. He stated that 'The fact that a large number of animals fail to respond to the nurturing and training they receive has not generally been taken as evidence that they do not want to, or are unable to, participate' Serpell et al. (2010:481). This presents an example of where the heterogeneity of individuals and their willingness to be trained deserves more attention in the media.

Seeing equids as teachers is problematic without a proper framework to define what that actually means for them. Certainly people can learn from other species but that often relies on human understanding of what is being displayed. Some horses, from my own painful experience, don't take kindly to having the soles of their feet cleaned out by strangers and can kick out to make their point, whereas others don't mind at all. After one or two sore ankles I learnt to take my time with new horses and not expect their complete compliance immediately. They did not set out to teach me these skills but I learnt from their natural behaviours quickly!

The Horse Haven UK web site (2018) states a list of behaviours that horses teach us such as confidence and assertiveness. They state that '[b]eing with

horses can teach us to move out of our heads and into our bodies' (Horse Haven UK 2018). I discussed the notion of horses as teachers with Suzannah Leighton, who founded the centre. She agreed that EAA is about people learning from horses. Her web site also states that 'there is a great deal we can learn from horses' so I assumed that what she meant about horses teaching us was actually what we could learn from them.

Returning to Handler's (1986:2) notions of authenticity, perhaps the descriptions offered by the Red Horse and Horse Haven UK about what their horses can teach us were a matter of semantics as opposed to metaphor or an inadvertent misrepresentation of reality. Maybe interpretation of their EAA descriptions were authentic enough without my search for the genuine and traditional, which said more about my search for rigour than about them, just as Handler (1986:2) suggested.

Caro and Hauser (1992) however, explored if other animals could be teachers;

The only way to make progress in this area is to first provide a definition of teaching which can, and undoubtedly will, be modified as empirical data accumulate and then to present a rich description of existing data so that researchers can make more informed assessments of where, taxonomically, to look for evidence of teaching ( Caro and Hauser 1992:152).

I tended to agree with Caro and Hauser in that 'teaching' required a better definition in order to offer a realistic message about EAA. There is a very different expectation of the teacher who holds knowledge and knows how to impart it, than to someone you can learn from if you so wish.

My original impression, that the language of some media aggrandized the effects of EAA or was based on anthropomorphic metaphors, remained a concern. Even with the understanding that authenticity was positional, assertions of equids as teachers was questionable and required more engagement with the concept of 'working for' as opposed to 'working with.' Coulter presented an example from Donalson and Kymlicka (1995) that differentiated between detrimental exploitation and some permissible uses of nonhuman labour – if embedded within a larger political framework that includes both protective measures and positive entitlements (Coulter 2016: 150).

Another way of thinking about more acceptable forms of nonhuman labour would be if their contribution or willingness to work with autistic children was part of their species' play repertoire. In some species, when individuals play with smaller or less gregarious play mates they often modify their behaviour to accommodate the other (Bekoff 2009:xiii). This was often my experience watching donkeys with small children and then seeing them with their conspecific peers. Donkeys were often gentle in their curiosity with unfamiliar children yet the same donkeys would be running around full gusto, rearing and nipping their playmates in the field minutes later.

Carol Caddes, who runs an EAA program at the Ortega Equestrian Centre in San Juan Capistrano, near Los Angeles, gave an interview to CNN in 2015. She stated that: 'Horses react and want to connect with a person or another horse that is authentic, grounded, present and has a coherent heart rate' (Macguire 2015: np). Apart from the problem of authenticity described in detail above, how could all of the other terms be justified? How could an autistic child be deemed 'present?' I had seen examples of children who entered the donkey's space in quite a distractable and highly excitable state only to calm



immediately in the presence of a donkey. If the children were too distracted it wasn't uncommon for donkeys to push their noses against the child in the same way that they do towards a playmate who was slow to take up the challenge. Caddes's (2015) statement felt metaphoric and not a representation of the practical potential of EAA. If we framed her description under the auspices of play and interpret horses modifying their behaviour to accommodate an interaction or relationship with another as play, it seems more plausible.

I was struck that my own equid knowledge, based on a lifetime of living with horses, observations at the Donkey Sanctuary and academic knowledge of equids, was incongruent with what I had read on EAA web sites and there was a need to explore further. I was concerned that the reasons equids acted and reacted towards autistic children in the way they did were not being presented clearly and therefore could be misrepresentative. Sarah Urwin (an informant for this chapter- pers. comm.), a psychotherapist who uses horses in her work, stated that she had been inundated with emails from parents who wanted to find a solution for their child's problems and that they had gleaned their EAA knowledge from a range of media.

This thesis required an accurate perception of the behaviour of both autistic children and equids towards each other based on realistic, evidence-based knowledge. In order to be truly reflexive during interviews and observations for this research, my own epistemology of equid-human interactions required prior questioning. For this reason I designed the next phase of my enquiry.

## Methods

Exploring the varied language and considerations of EAA required a methodology that had the scope to incorporate constructivist knowledge. Schwandt (1998) suggested that '[p]roponents of these persuasions [constructivists] share the goal of understanding the complex world of lived experience from the point of view of those who live it' (Schwandt 1998:221). I decided to collect the views and lived experiences about equids from training professionals and EAA practitioners and compare their knowledge with the claims from EAA media. Their views offered an insight to the complex world of EAA. I explored the rhetoric about EAA from the perspective of four equid professionals who were not directly involved in utilising equids in this way. I also recruited four further practitioner informants to ensure I had a balance of positions and perspectives.

Between February 2017 and May 2018, I conducted separate semi-structured interviews with four equid trainers and four EAA practitioners from the UK. The use of semi-structured interviews encouraged 'naturally occurring discourse' to capture ideas in context of our conversations (Aull Davis 2008:189). I had an informal list of potential questions to aid the discussion as suggested by Aull Davis (2008:106) but questions were intended to be a guide and therefore were omitted or attended to as the situation presented. I generated loose questions after scanning several websites and listening to parent and groom interviews. I was interested in determining if my informants could corroborate the capacity of equids to fulfil the role for humans that was asked of them.

The methodology for this chapter was Thematic Analysis. It was chosen because my enquiry was about perception of a phenomenon. Benefits or virtues

of EAA presented a perceptual phenomenon about the authenticity of the source of the knowledge (Cohen 1988; Handler 1986). Thematic analysis identifies themes in interview data that are important in the description of a phenomenon (Braun and Clarke 2006:79).

## Questions

I used the following semi-structured questions as a way of opening conversation and capturing thoughts. Each interview followed an enquiry based on the informants' responses and lines of thought; their topics were not restricted by the questions. I quoted the web site claims cited in this chapter and some of the informants completed additional web searches before, during or after the interviews.

- *Can I ask what motivated you or brought you into the world of equids?*

This question was intended to get the respondents relaxed and involved in the interview as soon as possible (McNamara 2009: np)

- *What personal qualities does a person need to form a good training partnership with the equids?*
- *What training methods could be used?*
- *What personal qualities does an equid need to form a good training partnership with the human?*

These three questions were intended to generate descriptions about equids and also training techniques. I wanted to be explicit in my interest in both the human and equid roles in EAA training. Hurn (2012:115) wrote that 'training implies the

imparting of practical, often vocational (i.e. functional) skills, knowledge or practices.’ I wished to understand better what type of personality readily responded to training and if the trainer’s character played a part.

- *Are human-equid relationships based on an understanding of the other’s emotionality and intention?*

Technically this was a yes/no question, but I was hoping to get into conversation to begin to unpick informant’s notions of interspecies emotionality and intention. Informants were made aware of the subject of my research and therefore they may already have had a view about my own motivations for asking this question (see Schwarz and Oysermana 2001:128). Rather than asking ‘how are human-equid relationships...’ I chose to ask ‘Are human-equid relationships...’ to minimise the risk of the informants assuming my view point and answering accordingly (Schwarz and Oysermana 2001:128).

- *Can equids demonstrate altruism: behaviour that benefits another at their own expense?*
- *Can equids show empathy: the ability to understand and share the feelings of another equid or a human?*

Much of the EEA media cited in this chapter imply, either by metaphor or undefined terms, a level of empathy and altruism by equids. I was interested to hear the type of language and examples that informants used, and to contrast this with EAA media. McNamara (2009: np) suggested that questions should be worded clearly, which included knowing any terms particular to the respondents’ culture. By asking a direct ‘can they...?’ question I was inviting their responses without more inflammatory ‘why...?’ questions that McNamara (2009: np) said may cause respondents to feel defensive.

## **Thematic Analysis**

I followed the 'Phases of Thematic Analysis' model (Braun and Clarke 2006). This model is presented in more detail in chapter 5. Exploration of scenarios and examples cited by informants enabled considerations and themes to emerge. Interviews were 2-3 hours long and recorded. They were transcribed in full. Phase 1 (Braun and Clarke 2006:87) of the model recommends that the researcher becomes thoroughly familiar with the interview data. Then responses are analysed and grouped together into similar themes (called codes). Codes are then collated into loose clustered themes in phase 2 (Braun and Clarke 2006:88). The next phase (3) includes further sifting and clustering until actual themes emerge from the data (2006:88). Data that aren't included in the themes become standalone quotes from individuals that fit a different pattern from the other informants. Braun and Clarke suggested that during the final phase 4, '[d]ata within themes should cohere together meaningfully, while there should be clear and identifiable distinctions between themes' (Braun and Clarke 2006:89). At this point the researcher re-visits the raw data to ensure the themes are representative of the original data. Once I had established the themes from following the four phases, I emailed the informants and shared my findings. With a few tweaks we reached agreement.

## **Informants**

All the informants in this chapter were trainers or EAA practitioners and shared a common pro-equid motivation for the work that they do. All informants wished to be named and quoted in the body of this thesis.

**Ben Hart** (henceforth Ben) is, according to his web site, one of the UK's leading equid trainers who has been practicing professionally since 1996. Ben works with feral and domestic donkeys, mules and horses in the UK and worldwide. He presents at conferences globally and is the author of a bestselling book that combines the art and science of equid training.

**Dawn Westcott** (henceforth Dawn) is author of three best-sellers about native Exmoor ponies. She specializes in trust-based horsemanship techniques and won a ground-based International Horse Agility World Championship twice with Bear, a moor-bred Exmoor pony stallion.

**Vanessa Bee** (henceforth Vanessa) is the founder of The International Horse Agility Club. She has written several bestselling books and an instruction video, all of which endorse the 'no whips or sticks' approach to horse training. She works both in the UK and internationally.

**Nikki Haddock** (henceforth Nikki) is Head of Animal Care at an animal sanctuary in Somerset and has years of experience rehabilitating equids. She cares for horses, donkeys and other species who have been bequeathed, or seized due to neglect or cruelty.

**Dru Butterfield** (henceforth Dru) is founder of the Dartmoor Pony Heritage Trust Equid Learning Program. She began EAA in 2009 after working with semi-feral ponies on the moor who taught her the importance of mindfulness and self-

management. Dru has a strong reputation for successful EAA projects with young people with challenging behaviour and/or disabilities.

**Suzannah Leighton** (henceforth Suzannah) is a Hypnotherapist and Master Practitioner of NLP. She has trained in Equids Facilitated Therapy and Equids Assisted Learning which she integrates in therapy sessions with her clients. Suzannah has written a training program for others to learn EAA. She runs workshops at her base in Horse Haven UK.

**Dean Dibble** (henceforth Dean) is a freelance horse trainer and works with the herd at Horse Haven UK. Dean has worked with horses most of his life and is very much part of the team at Horse Haven. He is the main horse handler at any equid-facilitated learning events and oversees the welfare and wellbeing of the horses throughout.

**Sarah Urwin** (henceforth Sarah) is a member of the British Association of Counselling and Psychotherapy. She has worked with horses all her life and taught as a BHS AI Instructor. Sarah trained with EAGALA in 2004 and is a certified EAGALA practitioner. She trained in animal-assisted interventions with the Society for Companion Animal Studies (SCAS).

## **Themes that resulted from the analysis**

EAA was accepted by informants, as a potentially positive activity that could be beneficial to both equids and humans within set parameters. If facilitators worked under unsubstantiated assumptions, all informants agreed that there was a great deal of potential for conflicting interests to cause harm. The eight main themes that came out of interviews with informants are presented below as well as anecdotal examples from their experiences.

### **Utilising the equid's trait for instinctive 'intention reading'**

EAGALA 2017, a global EAA provider states:

To evade predators, horses have evolved to be extremely sensitive to their environment. They instinctively analyse and react to our body language and other nonverbal cues. As a result, we are able to gain insight into our own nonverbal communication and behaviour patterns.

This was not unique to EAGALA; many of the themes presented by EAA media outlets included reference to the prey animal instincts of the equid (horse or donkey) with humans.

Suzannah, founder of Horse Haven UK, states on her web site that 'Although large and powerful they [horses] are very sensitive animals with the ability to pick up on our emotions and mirror them back to us' (Horse Haven UK 2018). She explained that, as prey animals, horses are conditioned to reading and responding to others.

Ben referred to his work with feral horses as a 'study of the true nature of horses.' This, he argued, identifies horses as generally submissive and non-



confrontational in most situations. He had noticed the same traits in domesticated donkeys and mules with histories of positive husbandry: 'they are incredibly sensitive and spend a great deal of time scanning others'.

Dawn suggested that 'ultimately, equids want to survive and stay safe. They are much less concerned with what we call ego, so their reactions are authentic.' I assumed a positional authenticity from her statement.

Sarah agreed that horses can read some 'subtle and heavy duty' body language. She thought that her horses often knew a lot more about her clients than she did in the first 15 minutes of working with them. Sarah didn't know what they know or how they use it but, like Dawn, guessed that it was to keep themselves safe.

Chinthapalli (2004:328) highlighted a programme whereby horses' sensitivity to human body language has been incorporated into medical training for doctors to understand better the importance of non-verbal communication and gentleness. It is plausible, then, that equids' submissiveness could cause the human to self-reflect and gain 'personal insight' as EAGALA (2017) suggested. Equids that are naturally sensitive to the 'other' in close proximity may well stimulate the human to become aware of their own body and behaviour and this was agreed upon by all informants. However, Ben pointed out that the reflection that humans gleaned from equids was self-reflection; until recently this took place without reflecting on the equid, who was acting as a mediator to their hidden self:

Self-reflection tends to be touted as the reason we use equids in EAA but it hasn't helped people to reflect on their use for five to six thousand years. If equids cause self-reflection [by looking at them] then why aren't

we further ahead in our understanding of equids? It only happened in the last 25 years after the likes of Monty Roberts and Pat Parelli pointed out a different way of understanding horses. Otherwise we would still be using whips and spurs or justifying the use of them.

The idea of reflection and mirroring (Horse Haven web site 2018) is a common one in EAA media. Horse Eye provide 'horse-led education' and state on their web site that 'Horses can heal emotional problems' (Horse Eye 2017: np). They pose a question that includes their perception of authenticity – 'Why are horses so good at mirroring individuals?' and then suggest a multitude of reasons why, such as a lack of ego. Ben pointed out that the reflection from the horse is not about the horse at all but what the human 'thinks' the horse is saying. Mirroring as presented in equid media is most probably equids genetically determined behaviour to scan for safety. Dawn reflected that 'horses are always assessing: am I going to survive, if there is food and is it safe? There is always underlying apprehension with horses.' This process takes place often in close proximity to the human in EAA situations and is interpreted as isopraxism, commonly known as mirroring, when in fact it is more likely to be an instinctive survival behaviour for the equid. Haraway nicely coined the phrase 'We polish an animal mirror to look for ourselves' as an attempt to highlight our rather anthropocentric view of what we get out of reflections from looking at animals (Haraway 1991:21).

Informants agreed that the sensitivity of equids towards human behaviour is based on reality and not something mystic. Dawn advocates that humans should be encouraged to be authentic whilst with equids. I took this to mean that people should be aware and present their own intentions and behaviour. She felt that the equids 'could handle it [if people] acted without ego and embraced the relationship mindfully'. The old adage that the horse would know

if a person was scared was raised by several informants as an example of the horse reading a psychological state that could be confusing if the human tried to act as if they were not scared, which they are often advised to do.

Informants agreed that if humans presented honestly (without concealment) to horses or donkeys, there would not be a reason why a relationship couldn't prove to be a good thing for both parties. This, of course, relied on the assumption that some or all equids wanted a relationship with the human. This notion of interspecies relationships being a good thing is supported by Haraway (2008) who cited an 'off-category' friendship between a German Shepherd dog and an 'old in the tooth' donkey who had to 'craft atypical ways to interpret each other's specific fluencies and to reinvent their own repertoires through affective semiotic intra-actions' (Haraway 2008:234). Both the dog and the donkey demonstrated motivation towards their relationship by crafting atypical communication methods, akin to equid-human ones.

Dru felt that her horses 'conformed' with humans before they became trusting of them. If the horse or donkey initially did what the human wanted out of submissiveness and not trust, the human must be aware of that and not abuse it. She elaborated that 'In an EAA scenario, both parties should be able to act freely and with a recognition of the spontaneity and emotional state of the other, however in reality, I don't know that this always happens.' Her thoughts sounded very much like mindfulness: 'the awareness that arises through intentionally attending to oneself and others in an open, caring, and non-judgmental way' (Shapiro and Carlson 2017:212). Vanessa proposed a similar idea that human EAA users should be 'encouraged to be very centred and quiet to have the courage to give the equid a point of view.' She described her work with feral ponies and felt that 'when the human relaxes into the moment with the

equid, a channel of communication opens.’ All informants concurred that equids were able to utilise their instincts to read the intentions of the other in the same way as intuitive humans are. In equids, it was described (by Dru, Dawn and Sarah) as a survival mechanism that happened unconsciously. The equids’ reading instinct enables a choice of how to react to the person. Vanessa elaborated that ‘some feral horses suddenly look you in the eye, when they are in close proximity to you, which they don’t usually like, when you are least expecting it. It is always very emotional and I always cry! This can only happen if they are enabled to act freely and have an opinion.’ Servais (2005: 339) reported on a similar phenomenon between people and dolphins: ‘Besides its emotionally arousing function, the first eye contact signals the beginning of an interaction bout. Consequently, all the subsequent behaviours of the dolphin are perceived as part of the interaction’.

Dean offered an example of one of his horses, Herbie, reading a person:

The lady had lost her confidence though a riding accident so we hooked Herbie up to the cart and went out. Going down the road, Herbie slams-stop his feet and turns. She panicked and said that it was the same thing as her accident that I didn’t know anything about. She had clocked the cow who put his head through the fence and Herbie felt her energy through the reins and reacted to her. We had been out several times before and he had seen that cow so many times but in the moment he had reacted to her fear. It was out of character for him. Herbie is always laid back and so chilled out.

Nikki agreed that equids read and react to people depending on what they are presented with by the human. She also cautioned that this skill has the potential

to be used as a 'business asset' and not as the very special thing that it is.

'There are only so many people that the equid can read and react to,' she said.

We discussed the lack of guidance about how many humans each equid could feasibly work with and she felt that this was a crucial measure required for good welfare. Nikki suggested that sometimes the work was 'actually performing' and 'who could perform all day every day'? We discussed the issue of control and how long equids were employed to perform behaviours compared to offering them the choice to leave once they had 'had enough.' Again, Serpell et al.

(2010: 483) offered a relevant insight: '... in contrast to free-living animals, most therapy and assistance animals are trapped in systems where they have little control over their social lives, and where they cannot avoid or escape unwelcome or unpleasant social intrusions'. Sarah's horses did an average of 45 minutes per session and were asked to interact up to three or four times a week. She felt that many 'shut-down' horses in EAA were being asked to work too many hours and were depressed as consequence.

Coulter (2016:75) explored the notion of equids working within EAA as part of her book that presents a range of species who labour in the same way as human labour. Coulter's book 'encourages deeper understanding of both work and animals, and proposes a more expansive scholarly approach to both areas' (Coulter 2016:3). The lack of welfare guidance for hours of work, as Nikki and Sarah raised, is at odds with the human equivalents in the UK and may be lacking because equids are generally not perceived as workers.

Nikki's and Sarah's concerns lead onto another theme that was raised as an ethical dilemma by some of the informants – the theme of gaining consent from the equid.

## Equid Consent

Dru questioned the ethics of taking a moor-bred pony away from the herd it was born into to perform as an EAA pony or to be ridden by a child in a domestic situation. She believed that the person assessing the equid for consent, and 'assess we must, should be incredibly sensitive to reading tightness of mouth, movement of ears, tensing up, how locked up those ponies can get whilst being exposed to the energy and emotions that some people are giving off.' Dru expressed that she did not doubt that her ponies would prefer to be on the moor with their herd but stressed that they simply would not exist without projects such as hers. Moor ponies are owned by farmers, who she says 'use them for conservation grazing and selling the foals.' She added that 'some were owned by enthusiasts but there aren't enough of them.' Her ponies were brought to her centre as opposed to going to the market as 'kid's ponies or meat.'

Justifying their work under a defence of giving them a life as opposed to some negative alternative could be considered problematic, although I had no doubt that Dru was correct about her ponies being sold off or slaughtered without her project. Rescuing horses to carry out work meant that their survival relied on their loss of their liberty (Serpell et al. 2010:483) and I wasn't convinced that equids would make that decision if they were able to. The work of Bekoff and Pierce (2017:53) sprang to mind when they cited the comments of Temple Grandin who designed slaughter apparatus to ensure 'humane slaughter' (Grandin 2008:75). They found her ideas at best unscientific but also ironic. She wrote 'as I looked out over a sea of cattle below me, I had the following thought: These animals would never have been born if people had not bred them. They would not have known life' (Grandin 2008:208). It would be pertinent to add to

her statement that they may not have known suffering either (see Harrison and Wilson 2013:3).

For the horses already born, and working in EAA, a common theme of gaining their willingness, trust and consent was unanimous.

Dru stated that 'if they have to earn their life by a doing these sessions then I am going to make sure they have the chance to offer their consent each day.' Serpell 1986 (cited in Velde et al. 2011:203) stated that people, when using animals for certain purposes (milk, meat and affection), always experience feelings of guilt as part of the human–animal relationship. Dru clearly cared for her ponies and felt that humans 'take from animals' all of the time. Serpell's statement resonated with me when I heard her weighing up her reasons for using the moor ponies for EAA and her impressive resolve to give them a good life. I questioned how she assured consent considering they would rather be on the moor. She replied that 'horses live in the moment so they think from day to day, moment to moment. I know that some interactions are really rewarding for the ponies and some not. The better we can make the sessions the more likely they will give their consent with softness.' In some circumstances, people less experienced than Dru could be in danger of mistaking consenting softness with resignation or even learned helplessness (Hall et al. 2008:249).

Vanessa cited several examples that she saw when the equid was clearly not consenting by their body language during EAA. She was told that they [staff] should 'do it [support the child] with a steely face and keep their mouth closed.' This distressed her so much that she did not want any involvement in EAA although she also acknowledged that she had seen very good practice to the contrary. She expressed that people seem to be drawn to horses over other

species and that they believe that the horses freely give their emotions back. She pointed out that 'people don't offer their sandwiches to sheep or cows on the moor but they do to the ponies.' To be sure the horse was giving consent she suggested that 'they must be loose [not tied up] and look you in the eye to offer consent. I could say that they look into your soul to be romantic about it [relating to EAA advertising].' Servais (cited in Knight 338:2005), suggested that 'no other human signal is as closely associated with both negative and positive feelings than gaze'. Following Vanessa's argument, the eye contact offered by an equid would require an experienced human interpreter to read it correctly. Stress, aversion or indeed acceptance could be mistaken for consent if one is unfamiliar with how the particular equid's feelings manifest physically (see Peters and Black 2012:73).

I asked Vanessa how gathering consent should be structured in an EAA session and she replied 'if we are going to use a horse in therapy they need to have a lot of space. So the session should start with the child outside of the horse's space and then wait for the horse to approach.' She reported that:

People say, 'if only they could talk' and I say well 'they are talking all the time, you just aren't listening. They are communicating all the time. Whiskers moving, ears twitching, eyes wrinkles... but it is so tiny we don't always see those tiny, tiny cues.'

It is those cues, she reports, that show consent or non-consensual participation.

Vanessa's description of tiny cues echoed Dean. He talked about how he watches ears, eyes, nose, body language and energy, movement towards or away from the person. Dean works in tandem with Suzannah. He watches the horses and she watches the people. That way he can really concentrate on the



horses' reactions to being with a person. He cited several examples of when he tactically suggested that the person work with a different horse if he saw signs of discomfort or if the horse walked away from the person.

Sarah's horses work mostly loose (without a head collar) and can always leave the session should they wish to. She explained that if her horses walked away during a session she used it as an opportunity to explore the client's interpretation of being left. For clients with attachment issues, the horse walking away enables her to tackle how the client meets their own needs and asks them if they do it as well as her horses. When she walks into her yard with a client, they do a body scan to engage with how they are feeling before they meet the horses. Whilst they are taking a moment to do the scan, Sarah said that at least one or more of her horses appear to see what is going on. If none of them appear she would be worried that they were choosing not to interact. In the one case where this happened consistently, she retired the horse who she felt had made her own decision.

Dru honestly described her learning journey of EAA that involved 6 months of intensive sessions with a vast number of students before she set down her EAA principles. She 'learned a thousand ways not to do EAA' and now only works with the ponies who have shown curiosity and willingness in the sessions. Her determination to provide the best life possible for her ponies means that she is not averse to lots of trials and learning from errors to understand her individual ponies. Her interaction sessions are limited to short bursts of interactions three times a week interspersed with plenty of time with the herd on the edge of their native Dartmoor.

Suzannah has a large herd of horses who live on a naturalistic track system consisting of hard paths, bushes, trees and natural herbs. The horses have access to hay all of the time and they also have access to a large pond/water hole. It was clear that the horses at Horse Haven UK had choices about their lives. When I approached their track to look at where they lived, horses Saffi and Herbie approached me and immediately began to smell my face. Suzannah explained that curiosity often got the better of them and they approached people of their own accord. She said that to judge consent was easy because if they didn't want to be there, they just walked away. Sarah spoke fondly of her horse Jessie who had lost her life to colitis earlier in the year. She said that she was 'wonderful and sensitive although quite hyper' and this made her incredibly and demonstrably inquisitive about people. She rarely left a client during a session.

Ben questioned how consent was being measured and explained that:

Just because equids can interact with humans albeit for food or because they have become conditioned to their role, doesn't mean they are freely consenting. Domestication has enabled the equid to form relationships with humans but given the choice, feral horses would rarely approach and stay with humans unless they saw them as a resource. The truth is, we want to believe that there is something spiritual going on and that equids are drawn to us through some kind of magical connection.

Nikki agreed with Ben that semi-feral horses and donkeys would probably not instigate interactions with humans unless they were offering, or had previously offered, something more than cuddles in return. Nonetheless, she said that training was a way that humans could learn about how equids show their willingness to be with them 'in the best circumstances we could offer them.' She

was reassured when adoptive humans, willing to take on her rehabilitated equids, invest in understanding equids. Nikki had seen some 'really strong bonds' between humans and equids if people were willing to 'wait until the horse/donkey is ready to agree [to an interaction]'.

### **The theme of consent also applies to humans.**

Vanessa questioned the people who volunteered to work with vulnerable children in some of the centres she had been in. Her concerns were that certain smaller independent centres function without proper governance, therefore welfare could be compromised because the staff may not have the professional training or skills required to understand the needs of the children, including 'if they actually wanted to be taking part or not.' Some people, particularly children, may not be able to give informed consent because of a specific disability such as level-3 autism that is described as requiring very substantial support (DSM V 2013). Equids are large and have a flight response to unexpected stimuli. If the children are unable to understand safety, or express concerns, I asked informants how we can be sure that EAA is in their best interests. Vanessa felt that it is not 'good enough to just push the children into it unless we are sure that they want to.' I suggested that in the case of children or adults who are unable to give consent perhaps their families would be able to do so for them. Ashall et al. (2017) discussed a similar situation in relation to vets requiring informed consent from their non-human patients whilst negotiating with their keepers' requests and permission.

Whilst gaining informed consent can often be presented as a robust ethical justification in human medicine, the same cannot be said in

veterinary medicine. If the veterinary profession wish to prioritise animal welfare, there is an urgent need to re-evaluate the nature of authority gained through owner informed consent and to consider whether animal patients might need to be better protected outside the consent process in certain circumstances (Ashall et al. 2017:247).

Perhaps consent could be triangulated as something essential from both the child and equid as well as their carers. It is a difficult concept to measure when there are other forces in play such as parents' desires for the child to participate or a lack of available equids for pre-booked sessions. Like Ashall's concerns for non-humans whose keepers consent for them, parents and carers may not always be best placed to assess the consent of their child.

Families are asked to complete consent forms and agree to the risks that EAA may present. Vanessa still felt that when asking the equid to be calm and safe with a child who is presenting unfamiliar behaviour, we [adults running sessions] should be equally ensuring that 'the child both wants to, and is able to, think about the horse.' Vanessa elaborated that parental consent should also involve the parent feeling enabled to remove the child during the session if they felt the need to.

Most providers ensure that adults manage safety on behalf of the children. The Horse Boy Foundation UK (website 2017), for example, includes methods such as the child and adult sharing the saddle whilst riding or the adult long-reining the horse whilst the child rides. Although this approach recognises the problem of the child being unable to understand safety, it limits two-way interactions between equid and child that could provide the opportunity to assess consent, which, according to Association of Social Anthropologists Ethical Guidelines

(2011:3), needs constant re-negotiation. Using saddles, bridles and long lines for lunging are designed by their very nature to ensure the participation of the horse from an anthropocentric view point. Children who are cradled by an adult may take comfort from the embrace but that could mask their underlying fear of being mounted on an equid, thus not consenting.

Some EAA practitioners encourage children to choose their own equids for their session which enables them to have some control, but Nikki argued that 'choosing does not represent an understanding of what was coming next.' The child would not be able to accurately consent if they were not really aware of what was going to be expected of them during the session. Dru did not allow the children in her centre to choose their partner ponies because 'they would all go for the little pretty black one, especially if their friend had chosen her first!' Both Suzannah and Dean were clear that the equids chose their people and not the other way around. Their horses were Gypsy Cob types and therefore had long manes and tails that seemed to be attractive to many of their clients. It was better to take the humans into the horses' track and see who they approach. Sometimes they approached certain individuals and then walked away which was good enough for Dean to accept as their non-consent. Their clients worked in groups, so it was not a problem if dyadic partnerships didn't form; they just adjusted the activity to accommodate group observation work.

## **Empathy**

Equine Facilitated Psychotherapy & Learning (LEAP), a UK based EAA company state on their website that 'these intelligent, sensitive creatures are

also our friends; they live entirely in the present, offering us patience, forgiveness, and another chance when we get it wrong' (LEAP 2017: np).

A similar rhetoric was presented in much of the marketing material of other EAA websites and was offered as a reason for utilising equids. I feel uncomfortable about this idea of equids living in the present. All of my five horses wait for me at the field gate in the morning. In the summer I may or may not give them hay when I arrive depending on the grass length and this would probably be the reason for them being there. If they lived entirely in the present, how do they recall that I do this often (past experience), may do it today (in the moment) and furthermore won't do it as I leave the field so they don't go back to the gate (future planning for the next morning)? This notion of completely mindful equids appears to be an example of rhetoric that has become embedded into common belief even though the practical evidence is to the contrary. Hanggi and Ingersoll (2009:459) conducted research on horses who had previously been participants in cognitive discrimination, categorization and concept learning tasks. They used the same participants for long-term memory tests and found that they remembered events from 7–10 years before. Murphy and Arkins (2007: np), explain that 'horses with the greatest capacity to learn, understand, and solve problems are more likely to succeed with regard to the human–horse relationship and the associated handling and training atmosphere.' It seems statements about equids, particularly horses, living in the present are over simplified. This could be another example of where terminology requires clearer definition. A better definition for 'living in the present' would be equid mindfulness as stated by Shapiro and Carlson (2017:212) above. Equids and many other prey animals do well to pay full attention to 'oneself and others' as a survival mechanism. That type of mindfulness would require good memory to be

able to discriminate perceived threats from their prior experience in similar situations. If they were unable to discriminate, every time they perceived movement in the bushes, they would simply flee. Learning from experience enables them to make proportionate decisions in response to their species specific flight instinct.

Sarah explained that ‘people used to think about what we now called mindfulness as inhabiting their bodies.’ That is not to say that past experiences don’t affect them, but they are able to ‘disassociate themselves from them in a much better way than humans; it is another example of survival characteristics,’ she argued.

Dean pointed out that equids and humans ‘understand from different vantage points.’ For an equid to offer ‘patience and forgiveness’ (LEAP 2017: np), or to ‘read and respond to the nonverbal messages we are always sending’ (EAGALA 2017: np), they would require self-awareness and the ability to recognise others’ ongoing subjectivity, separate from themselves. This ‘perceptual role taking’ is referred to as theory of mind (ToM) and described in chapter 2 (see Baron Cohen 1989:285). ToM would be an essential characteristic to enable intersubjectivity, the two-way conscious interaction between agents that is also discussed in more detail in chapter 2. Assuming that equids are ‘minded social actors who hold perspectives and generate interactions...’ as Arluke and Sanders (1996:41) suggest that all animals are, equid ToM is more than likely. We should not forget that the equid Umwelt that perceives the world from an equid perspective would also have an equid-based ToM. Jakob von Uexkull (1934:319) coined the term Umwelt to describe how each individual creature, including humans, perceives the world. Their

perception is based on their physiology and psychological processing specific to their species. Although dated, his writing is celebratory of the diversity of life:

Perhaps it should be called a stroll into unfamiliar worlds; worlds strange to us but known to other creatures, manifold and varied as the animals themselves. The best time to set out on such an adventure is on a sunny day. The place, a flower-strewn meadow, humming with insects, fluttering with butterflies. Here we may glimpse the worlds of the lowly dwellers of the meadow. To do so, we must first blow, in fancy, a soap bubble around each creature to represent its own world, filled with the perceptions which it alone knows. When we ourselves then step into one of these bubbles, the familiar meadow is transformed (Von Uexkull 1934:319)

The EAA claims cited above appear to suggest that horses offer ‘patience or forgiveness’ towards humans because they recognise the intentionality of humans and can empathise with them, albeit through their equid ToM and their unique umwelt. The Oxford English Living Dictionary defines (presumably human) empathy as ‘[t]he ability to understand and share the feelings of another (OELD web site 2018). de Waal prefers the term ‘empathetic perspective taking’ when discussing other animals’ ability for empathy (de Waal 2016:132).

‘...knowing what others want or need, or how best to please or assist them, is likely the original perspective taking, the kind from which all other kinds derive’ (de Waal 2016:132).

LEAP suggests that equids ‘offer us another chance if we get it wrong’ (LEAP 2017: np). That would assume that their ‘forgiveness’ is because of their ability



to empathise, unless they have been simply trained or desensitised to suppress something that would usually warrant a typical equine reaction.

An example would be a child with reduced mobility unintentionally bumping into the equid. The child would not have deliberately bumped into the equid, who would understand this and therefore would not feel threatened or react. This is in contrast to my experience of equid interactions with some humans who bump the horses with saddles and all manner of equipment unintentionally whilst leaving the horse tethered. Horses can and do look stressed during these encounters and I have also witnessed a horse rear up as soon as they were untethered because they were so stressed about what was happening. With conspecific equids who quite often use their bodies to bump past each other, there does appear to be a shared understanding, leaving the 'bumped' equid seemingly un-affronted. This can often be observed when young horses invite others to play with 'jaunty approaches' (Reece 2017:72). Accidental bumping or nudging gets ignored.

Dawn postulated that some of her horses may not be fazed by unusual behaviour from a child or vulnerable human, although this would 'entirely depend on the character or temperament of the individual equid and how they related to the human in question.' Sarah also cited an example of a disabled person bumping her horse and the horse remained unfazed. Ben concurred that equids don't feel threatened by a child if their behaviours are 'innocuous and authentic because that level of honesty makes them easily read.' Informants agreed that equids respond to humans emotionally and form close relationships with specific humans, thus demonstrating the possibility for a relationship based on knowledge of reading the other's emotionality. Smith et al. (2016:12) demonstrated that horses could react to photographs of humans showing

various emotions such as anger or fear. Some equids may be more willing to give or receive emotionality with humans than others, as demonstrated by the following reflection from Dawn:

They are capable of showing affection and at times, they can seek affectionate interactions - grooming, stroking, and just 'being' in close proximity to humans. This can be where food is not involved, so they are clearly looking for interactions with the humans that involve emotional exchanges. They can be open to offering, receiving, exchanging and sharing feelings. Equids that are not in the mood or not receptive to this make it very clear through their body language, detachment and closed state. Like us, I believe equids have the ability to open and close themselves to and from connections with humans.

Responding appropriately to human emotions is not the same as understanding and reflecting empathy in the form of 'forgiveness.' As yet, we are unable to know the complexity or presentation of equid empathy without tentative comparison to our understanding of the behaviour from an anthropomorphic stance. Baron Cohen has written widely on human empathy. He describes it as two staged: firstly, to recognise the other, and then secondly to respond. He stated: 'Empathy is our ability to identify what someone else is thinking or feeling, and to respond to their thoughts and feelings with an appropriate emotion' (Baron Cohen 2012:12).

He argued that degrees of empathy within humans lie within a normal distribution 'bell curve' and informants concurred if equid empathy existed, it would also be dependent on individual differences. This would likely be the

same for equids who would be expected to reflect individual differences in their empathic capacity.

Dawn noted that her ponies showed 'A huge range of emotions and behaviours. The development of individual characters and temperaments occur within the herd, thus resulting in an array of responses towards each other and towards humans.' She has observed equids support one another in a way that could be described as equid empathy and she has also observed her ponies show the same level of understanding towards humans that they have a relationship with.

Suzannah saw empathy as feeling another's emotions. She didn't believe that it was correct to use words for human feelings and assume it would be the same for horses. She had heard 'plenty of people say it is not fair to dump the rubbish onto horses but I don't think they hold onto any of it. I don't think they mull over the person's feelings much to be honest.' Sarah agreed that in the long term equids probably don't carry people's emotional baggage but they can be affected by it in the short term and this should be monitored closely. She cited an example of a clinically depressed client whose partner horse began to look depressed himself and they questioned what they were doing. She thought that equid empathy is overplayed and down to individual horses and individual circumstances. She said that 'Mirroring is actually them reading your body language, and we can't extrapolate from that any more than it is. It is blown up as a marketing tool to be much more than it actually is, and I don't know what science is behind it either.'

Ben doubted that empathy has developed in equids to the same extent that it has in humans. He acknowledged that 'to live in a social group, equids must be aware of their conspecifics and respond appropriately, which is a precursor to

empathy.’ This idea of an empathy precursor was also described by de Waal (see above, de Waal 2016:134).

Vanessa and Dru also remained sceptical as to how deeply the equids understood thoughts or feelings from humans although both commented that equids were ‘masters of body language,’ which Vanessa felt was ‘unlike most humans.’

Dru suggested that

It is a one-way street most of the time because we want to think of the horse like us by anthropomorphism. Humans have a predominance of one-way relationships with horses. The human takes and the horse gives. There are opportunities for magical moments but 99% of the time people don’t even recognise what the horse is giving.

Informants were asked how equids assessed if an action performed by a child or vulnerable adult was a threat or an unintentional behaviour. Dru sensed that her ponies were ‘de-sensitised to kids who make noises; however, if it gets too much they walk away.’ Dru has experience of Dartmoor ponies protecting humans when they were lost on the moor, but did not think that this was empathy as we know it. ‘The truth is,’ she said, ‘I don’t know why they did it but it was probably a remnant of being a herd animal and maybe had good associations with humans beforehand.’

Nikki presented an interesting perspective. When I asked her if she felt that equids have empathy similar to humans, she replied: ‘there is no evidence of that... it is probably more basic than that. They can understand when somebody is unwell or not right and actually they may turn on them rather than empathise.’ She stated several examples of humans who were quite needy and potentially

mentally unwell who actually had an adverse effect on the horses that they were working with. On one occasion Nikki asked a person to work on alternative duties rather than being with an individual horse because he [the horse] was beginning to 'look depressed whilst with her.' de Waal (2007) offered a potential explanation to the informants' debate. He suggested that 'both developmentally and evolutionarily advanced forms of empathy are preceded by and grow out of more elementary ones' (de Waal 2007:50 cited in Braten 2007). The degree to which empathy forms in any given species is dependent on their cognitive development. He proposed a model that begins with emotional contagion whereby 'one party is affected by another's emotional or arousal state' (de Waal 2008:279). This could be demonstrated between any mammalian mothers responding appropriately to their whimpering babies. Synchronization in herds is another example of emotional contagion and this probably evolved through natural selection. de Waal (2009:50) cited an example of synchrony in horses in the Netherlands. Over 100 horses had become cut off on some land surrounded by flood water and 19 had already drowned. Four local riders coaxed their own horses out to the stranded ones who turned and followed them to safety. This perfect example of equid synchrony was captured on a very powerful YouTube video (The Great Netherlands Horse Rescue 2006). This is the type of 'precursor' to empathy that Ben and Nikki identified above but it still falls short of an ability to offer 'patience or forgiveness,' both of which require a deeper level of human-like empathy.

de Waal (2009:52) suggested that 'with increasing differentiation between self and other, and an increasing appreciation of the precise circumstances underlying the emotional state of others, emotional contagion develops into empathy' (de Waal 2007:52).

To what extent equids have developed empathy or indeed how similar it is to human empathy is an area yet to be explored in detail. Certainly, there is evidence for other species showing fairly advanced cognitive thinking about conspecifics or indeed humans. These cognitive skills are reflected by their Umwelt and require humans to understand them within that context. Good examples about other species come from Masson (2004:100) about friendship in sheep, Bekoff (2010:41) about emotionality in mice and elephants and Frohoff (cited in Brakes and Peter Simmonds 2011:137) about dolphins who, interestingly, respond emotionally but can 'take or leave humans' and I would suggest that this could also extend to equids. Marino and Frohoff (2011) followed an impressive and unusual methodology when studying dolphins' cognitive skills. They sought 'free-ranging cetacean individuals and groups who had initiated, or chosen to participate in, sociable interactions with humans in the wild.' They defined their approach as 'Interspecies Collaborative Research between cetacean and human' that 'involves developing novel ways to address research questions under natural conditions and respecting the individual cetacean's autonomy (Marino and Frohoff 2011:6). Their approach was impressive because of the importance that they placed on stepping into the dolphin's world as opposed to capturing them to place them into a human world. The dolphins who took part did so out of natural curiosity whilst others chose not to.

Informants were unanimous in agreement that EAA providers tend to use anthropomorphic language to describe equid empathy and, albeit unwittingly, were probably giving an incorrect impression.

## Altruism

The Oxford English Living Dictionary (OELD 2018:1.1) defines the word altruism in a zoological context as 'behaviour of an animal that benefits another at its own expense.' Bekoff and Pierce (2010) suggested that altruism is part of a cluster of related behaviours that share some resemblances. 'The cooperation cluster includes behaviours such as altruism, reciprocity, trust, punishment and revenge' (Bekoff and Pierce 2010:8). This cluster, they believe, is present in a variety of species to a greater or lesser degree.

This was a theme that didn't fall into a consensus with informants. Nikki cited an example:

I was in a field full of geldings. I was looking underneath him for some reason and I got knocked over on to the floor. One of the big Warm Bloods came and stood over me; the rest went charging around. Is that the same thing as altruism? He was protecting me for sure.

Nikki didn't think that the horse protected her out of empathy or altruism but possibly that she was a resource giver who had built up a strong relationship with him after his arrival a year before.

Dean cited examples of horses helping each other out such as when one horse got confused about how to reach the others who had moved around the track away from him. 'The horse was getting distressed and a couple came back for him to follow, is that altruism or herd behaviour?' It was a good question because I had often seen my own horses behaving in that way when one got too far away from the rest of the herd. It is in the best interests of social animals to be in a herd, but I wasn't confident that the term altruism best describes the behaviour.

Vanessa didn't think any equids would put themselves in danger to protect another equid. Her view was that 'altruism is a theological discussion and a personal perception from our conditioning and upbringing. Dru wasn't able to cite any examples of altruism either: 'in all of the years I have been doing this, I have never seen it in ponies.'

Dawn cited a few examples of where she thought she had seen altruistic behaviour in a semi-feral herd such as 'a mare who intermittently took over protection of another foal and left her own foal because she could see that the other mare's foal need was greater than her own foal.'

Sarah cited an example of Jessie, her sensitive mare, who stood for a full 20 minutes and tolerated being touched and groomed by a disabled lady with an unsteady gait. She thought that it was completely out of character for Jessie and was amazed at her behaviour. Sarah thought that it looked like an act of altruism because it wasn't Jessie's natural behaviour, nor did it really serve her a purpose. It seemed to her that Jessie was motivated by being with the lady and not minding the accidental pokes or being leaned on quite a lot. Sarah said 'I don't think you can separate our actions from what is happening within the other person because it is a collaborative process. It is risky to take examples out of context and you could come to conclusions that can be far from the truth.' Altruism, she thought, was too human a word to attribute to another species, although within herds she had occasionally seen helping behaviours that 'looked' like altruism.

Ben wondered if some examples of altruism or empathy presented to him anecdotally were in fact taught by the humans inadvertently. Confusing an equid's ability with what the equid has learnt is an old concept. A notorious



example of this is the horse Clever Hans, in Germany in 1907. Hans allegedly performed arithmetic but an investigation showed that he was actually picking up on the behaviour of his trainer who was unwittingly training the horse to respond to his physical gestures and not to perform arithmetic (Proops 2018: 24). He wondered if examples of altruism were simply behaviours that the equid had learnt from unwitting humans. We discussed how traits of altruism and empathy are often perceived as a spiritual thing emanating from the equid, he suggested that 'some of these examples are more exciting and would be better used as examples of learning rather than anything spiritual.' Ben questioned how we would begin to assess equids' versions of altruism as opposed to instinctual or character-specific traits. We discussed how mares protect foals and a stallion may fight to protect a member of his herd from an adversary, but we were unable to be sure that these examples were the same type of altruism that the media described that equids demonstrated towards people. Ben offered his thoughts: 'I don't think the horse brain can only develop nice higher-level brain functions like empathy or altruism without other examples of less nice higher brain functions like deceit; I don't think that it is there yet in equids.'

Ben's thoughts are supported by Peters and Black (2012)

In human beings, our frontal lobes are extremely large... Our abstract ideas, our thinking process, our processing of information, and our personalities are all frontal lobe functions. The horse does not possess this developed frontal lobe... The horse lacks the cognitive capacity for having such thoughts as 'I know what this person wants me to do today but I don't feel like doing it' (Peters and Black 2012:33).

Bekoff and Pierce (2009) pointed out that altruism 'has particular meaning in biological parlance that diverges from the normal use of words in everyday conversation.' In biology, they suggest, altruism lacks a 'moral colouring, there is no accounting for intention or motive' (Bekoff and Pierce 2009:60). So biological altruism in terms of costs and benefits are assumed to be based on reproductive fitness and survival that they argue are not the whole picture. Keeping with the idea that the brain is the root of these intersubjective emotions, Clarke (2018: np) suggests that altruism activates pleasure areas within our brain. As far as I am aware this has not been tested on equids. It would be quite a difficult test even if it were possible or ethical to do so. Kringelbach and Berridge (2009:479), like Peters and Black (2012), suggest that altruism is a higher-order brain function in humans because of the development of our brain.

Assumptions that certain brain structures would perform the same cognitive functions in other species is not always rational. The cortex, where the frontal lobes sit, is often invoked to explain why humans can do things that other species, such as the horse in Peters and Black's case, are unable to. Parvizi (2009) suggests that there is a 'conceptual bias at the root of this 'corticocentric' view of the human brain' (2009:354). de Waal (2016) explored Parvizi's argument and agreed with his observation against cortex development being the fundamental explanation for all behaviour: 'But why take the way our brain is organised as the measure of all things and look down on subcortical areas?' (2016:160). He presents an interesting alternative to the study of brain structures and functions: 'embodied cognition... which postulates that cognition reflects the body's interactions with the world' (2016:159). Although a literature search revealed examples of embodied cognition mainly in human perception, it

appears to be a perspective that brings us a step closer to understanding other species' umwelt.

Thompson (2012) explained that embodied cognition

... changes the job description for the brain; instead of having to represent knowledge about the world and using that knowledge to simply output commands, the brain is now a part of a broader system that critically involves perception and action as well. The actual solution an organism comes up with for a given task includes all these elements (Thompson 2012: np).

Certainly autistic children perceive the world differently from non-autistic children as demonstrated in chapter 2; their embodied cognition is peculiar to them as individuals even though they have all got the same brain structures.

Sarah thought that the horse's ability to inhabit their body (mindfulness) is 'not just frontal cortex stuff. It is old-brained stuff where all of the emotions are controlled [points to back of her head] in the amygdala.' She explains that horses are better at 'detaching the back of their brain from the front, unlike humans.'

Theories of both brain structure and embodied cognition support the notion that equine altruism, if it is possible, is perceived and expressed within equids' own unique physiology and perception, not in the same way as in humans. Their umwelt would need much more investigation to be able to conclude the matter.

## **Not all equids are suitable for EAA**

Informants stressed the importance of the equid's history and character in deciding if they were suitable for EAA. I explained that I had conducted a literature search and discovered that in all of the 15 studies (see chapter 2) equids were not treated as a variable in the research in the same way that humans were. I also explained that there was a real gap in the EAA research about the differences between equids. Ben suggested that people often think that equids should all react and act the same. He emphasised ultimate character differences between donkeys, mules and horses: 'Donkeys are known to be stoic and less likely to take flight than horses; however, mules are known to require negotiation.' At the same time, individual equids' character differences account for a huge variety of behaviours. All informants discussed the different temperaments and characters of individual equids that they were familiar with and agreed that not all equids should do EAA.

Ben suggested that:

Equids in general have some skills that allow them to survive: their ability to read body language, make friends and their true nature is to be submissive and not confrontational and not to cause conflict. They have an ability to learn from scary situations and adapt. Domestication pre-qualifies them to make these human-equid relationships, so yes, they may be all capable of EAA (even in feral herds); however, early experience of human handling and training cause the individual characters to be suitable for being an animal that can be calm and relaxed around people or unhappy and fearful to be around lots of new people.

Vanessa watches literally hundreds of videos of human-horse dyads competing in her horse agility club. She described the horses who enjoyed their training:

These horses are not dead behind the eyes, there is someone home... They appear to be interested in people. Like a robin that always seems to appear when you are gardening, they are interested. Some wild ponies look at you and think who are you? They open the channel of communication. They are the ones that want to work *with* people and I have hesitated on *with* or *for* because that brings up ideas like horses as healers [paused for thought] I mean why nature would create an animal that is a healer for humans [In reference to an EAA web site]?

Dru was very specific about the types of horses that she works with in EAA:

They are usually 6 or 7 years old and not too dominant or submissive. They are generally curious when children turn up in their field before the sessions and always show softness towards the child. They are from friendship groups within herds and not overly dominant or submissive.

Sarah said that it was good to have horses that were naturally calm and curious but that most riding horses would have the right training to do EAA. She said that it was good to have a range of horses for specific clients. 'I have a horse out there [pointing to her fields] with useless boundaries but will clearly tell you when he doesn't want to do anything. He may not be in the initial sessions with new clients but will be in the latter ones.'

Nikki talked about how the equid's early history and treatment by humans can have a huge impact on their character and safe management. She has worked with donkeys, horses and mini-horses who have suffered at the hands of humans and said that 'some recover and some don't.' Dawn campaigned

against the use of multiple hot branding semi-feral Exmoor foals during the annual moor round up. Apart from the obvious pain and scarring that it causes the ponies, they remain suspicious of humans for a long time: 'these foals have been terrified and hurt, separated from all they have known and then sent to market to make children's ponies. It takes a long time for their true character to come out, if it ever does. I would not suggest that they would make EAA ponies.'

Ben recommended that equids should be observed in their pastures with their herd.

Assessment for identifying EAA-suitable equids should be obvious from who they are in their social group. If they are relaxed and happy amongst most of the herd, then they may well be happy with a variety of humans too, as long as they have had a good history of humans...

Equally, he concurred that equids know that humans are not equids and therefore we need to exercise caution when selecting characteristics from watching herds interacting. Informants agreed with my example that a seemingly gentle equid in a herd could become quite distressed about being taken away from her conspecifics. Vanessa pointed out that 'horses can be in different moods day by day or even hour by hour, because they are persons like us.' In which case, reactions of equids who are 'not in the mood' or who are changeable during EAA would need careful monitoring. Suzannah said that she lives with her horses and therefore knows their individual characters and moods. One of her horses, Saffi, is 'best left alone when she is in season.' When I interviewed her she was mourning the loss of one of her horses who had an allergy to midges (sweet itch). He had gone to live with a friend who had

fewer midges on her land because it was unfair to keep him somewhere that caused so much discomfort. I was struck with the sensitivity to each horse's needs that both Suzannah and Dean showed at Horse Haven UK.

I asked Dawn if she had ponies who showed a preference for working with people. She replied:

I do have ponies that if they think something is on they present themselves, put themselves forwards, want to be part of things, so if you have to say that it is not your turn here... they don't like it. Some want to be involved but can't really cross the bridge yet and some really don't want to.

Informants agreed that EAA should be mindful not to reflect the same trend as some research by failing to ascribe individuality to equids.

## **Training**

The word domestication is another example of a well-used phrase with an assumed meaning. A simple and often accepted definition was offered by Clutton-Brock (cited in Cassidy 2007:2) who emphasised human control and the conversion of animals into property. More recently, scholars have 'deemphasized notions of ownership, property, and control, in favour of a more flexible nexus including cooperation, exchange and serendipity' (Cassidy 2007:2).

Cassidy (2007) highlighted that 'in zoology, the idea of domestication as an asymmetrical relationship between humans and nonhuman others exists

alongside more recent versions that emphasize symmetrical relationships of coevolution' (Cassidy 2007:2).

Horse domestication is often cited as starting on the steppes of the Black Sea in Kazakhstan 6000 years ago (Rees 2017:27). Evidence for domesticated asses goes back at least 5000 years (Beja-Pereira et al. 2004: 1781). Both equids were used for agriculture, transport, meat and milk (Kelekna 2009: np). Until recently it was assumed that Przewalski's horses were the last remaining horses undomesticated or influenced by humans. DNA sequencing research carried out by Gaunitz et al. (2018: np) showed that in fact they are the feral descendants of horses herded at Botai, Kazakhstan and not truly wild horses as previously thought. Matso Siva et al.(2015) showed that all extant domesticated horses are descendants of equids that originated in Iberia and Africa who were later domesticated in small pockets (Matso Siva et al. 2015: 217). Equids in EAA are descended from generation after generation of horses and donkeys who co-evolved (Cassidy 2007:2) with humans. Their temperament and morphological characteristics would have been selected for depending on the ongoing uses that humans required of them. In the same way that hunting dogs such as Labrador retrievers were selected for their hunting prowess then later became assistance dogs (Walther et al. 2017: np), so the uses of equids have changed. These changes could involve equids working in agriculture or sports who were prized for their strength, suddenly shapeshifting to become therapists or teachers as discussed above.

EAA training, therefore, is just another way of enabling anthropocentric equid-human relationships. Vanessa raised another consideration that most equids taking part in EAA had generally performed a prior role for humans. This was corroborated by Suzannah, Sarah and Dean. Both equids and their trainers



would most likely have started their equid-human relationship doing something different, so their training would have been suited to the one or more equestrian activities that they were accustomed to. Their EAA training was an additional requirement and perhaps not always complementary to their evolved or previously trained past. Dressage horses, for example, are accustomed to paying close attention to their riders' subtle body movements in order to perform set physical actions. Finding themselves working as EAA horses could make them confused because of the different, and possibly less subtle physical cues that they get presented with. In chapter 5 I present the results of my research that shows that autistic children touch donkeys a great deal more than they touch other children. I am not aware of any studies indicating that children are more drawn to touch donkeys than they are horses, therefore it feels acceptable to generalise across to horses. Autistic children's touching is very different to dressage riders' touching and this may confuse the equid.

Training and who should carry out such training did not fall into any obvious themes other than a need for specific experience or qualifications. Suggestions ranged from 'strong and decisive characters' with a 'big physical presence' to 'quiet and unemotional trainers.' All informants talked about the need to recognise 'the try'; the point where the equid makes an often tiny gesture towards what is being asked. Sarah felt that trainers should really be able to read the equid's body language but that sadly she had not seen that many who could. There was a consensus on the need for trainers to be part of designing the EAA model based on the characters of the equids and humans. The training 'style' should be replicated in the session. For example, the use of positive reinforcement that couples desired behaviour from the equid with rewards from the human, such as food or scratches, is a common training style. If the equid is

familiar with receiving rewards from humans when they show specific behaviour, then EAA users should be taught to do the same. Vanessa pointed out how training methods followed a fashion and she had watched them all come and go over 50 years. She said 'herd leader worked for a while, now it is all positive reinforcement. All horses are different so they are open to different techniques.' She raised an important issue that was also touched upon by other informants: how far should the training go. People regularly asked her how to train an equid not to 'spook,' which is the term used to describe when the equid jumps or shows fear to a stimulus. 'I want a horse to spook because it is natural and there is someone in there, alive. Why wouldn't I want them to spook?'

Vanessa tells them. Dean did not use any particular training technique. He knew that certain individuals were better at new experiences than others and chose his equid partners based on what was required of the situation. Dean showed consistency in his relationships with the horses and felt that it would not be a good idea to desensitise them because the clients that they worked with needed to understand if the horse was uncomfortable. Masking their true feelings wouldn't have taught the humans anything. Sarah agreed with Dean. She didn't use any particular training approach but did select each horse based on their character and how they would suit the task required of them.

Ben proposed that 'all training will make the equid uncomfortable, mildly or otherwise depending on the trainer,' thus raising the importance of ensuring that welfare guidance is acknowledged in the process.

Training equids per se was not disagreed with, but welfare factors within training needed a prominent level of attention. Vanessa felt that the five freedoms, taken from the Animal Welfare Act (2006), do not go far enough for EAA or many other equestrian activities:

You should train an equid to be safe around people by setting up enriching, learning experiences. EAA must set the standard here. People still encourage children to hit horses with pink spangled whips and this is not prohibited [under freedom from pain]. Whipping horses is justified, wrongly, by people who say they can't feel it even though a tiny fly on their rump causes them huge irritation. EAA is our chance to change that perception.

Both Dru and Ben independently raised ethical concerns from their own experience of training equids. Dru commented 'to be able to understand what makes the equid tick, trainers need skill and patience'. She felt that sometimes she was 'breaking the horse's huge trust' when she handed them over to their new lives once she had trained them. This put me in mind of Ingold's thoughts on domestication: 'however we might choose to distinguish between myth and science, they have in common that they tell us as much about how the narrators view their own humanity as they do about their attitudes and relations to non-human animals' (Ingold 2000:61). All of my informants without exception showed thoughtful concern about the equids that they worked with. I was struck by Dru's attitude towards her staff and volunteers. She was very polite yet particular in her instructions about care of her ponies. One member of her team told me that they had a huge respect for her 'amazing intuition' about the ponies' well-being. Throughout her interview with me and in later email correspondence she was very responsive to conversations about equids' emotional well-being and immediately began questioning what she did with her ponies. From my own and other members of her team's observations, her relations with her ponies, to quote Ingold (2000:61), 'were rooted in polite and respectful relationships'. I was not at all surprised that Dru's humanity would be

perturbed by moving a pony on to a new home once she had formed a relationship with him or her.

Ben pointed out that just because you can get an equid to do something because they generally avoid conflict, it doesn't mean that you should. He cited an example of just how willing horses can be:

I did 10 months of work with a mustang who didn't want to have a head collar on. At the same time I watched him attack a coiled rope in a sand pen with his back feet with immense power. He could have done that to me, but he didn't, even though he didn't want his head collar on. It is their true nature to avoid conflict, especially when they can't predict the outcome.

This was echoed by other informants who expressed loyalty to individual equid characters who were previously part of their clientele. Those individuals became accepting because they had shown curiosity and compliance in human relationships. In the odd case, after professional training, Vanessa noticed equids that were 'bored' or 'dead behind the eyes' with their new roles or perhaps as a result of that betrayal of trust. King (2013:32-35) wrote about other species that grieve, which could also offer an explanation of why a few equids present such a sad persona after being moved on from their trainers.

Ingold (2000) proposed that the relationship that pastoralists, humans who domesticate animals, have with other species is based on domination and not trust:

These principles of relationships [pastoralists and their domesticated animals] are mutually exclusive: to secure the compliance of the other by imposing one's will, whether by force or by more subtle forms of

manipulation is [...] an abrogation of trust, entailing as it does the denial rather than the recognition of the autonomy of the other on whom one depends (Ingold 2000:730).

Informants, however, were renowned for training methods that repelled dominance in favour of reciprocity. Gentle, intuitive interspecies interchanges characterise their approach and that of seemingly many of the EAA practitioners from my observations. Armstrong Oma (2010:175) offered an alternative explanation and questioned Ingold's transfer from trust to domination, suggesting that it is over-simplified. In human-animal relationships, where domesticity and husbandry brings about daily intimate contact, a social contract develops:

In the social contract there is, unlike in judicial contracts, no independent third party with the power to enforce the contract, and those who enter a contract are bound solely by their trust in the other party (Armstrong Oma 2010:176).

In the case of equid training, when humans and equids require close reciprocal behaviour, trust may develop in the form of a social contract. This could also apply to the relationship between humans and equids who form close bonds in EAA and explain the volume of positive anecdotes about the practice. Palmer (1997), however, stated that '...there are important dissimilarities between a domesticated animal contract and other theories of social contract, and that contract language may be used to legitimate relationships of domination over domesticated animals' (Palmer 1997:411). In which case the anecdotal evidence would require scrutiny for evidence of how anthropocentric informants view the interactions.

Ben proposed that ‘humans are always training equids in some way when they are with them.’ Conscious or unconscious rewards for their behaviour come from the humans but conceivably, given the opportunity, equids train people too. Perhaps human-equid EAA dyads ‘craft atypical ways to interpret each other’s specific fluencies and to reinvent their own repertoires’ as Haraway suggested (2008:234). Her observations certainly rang true during my observations of some non-verbal autistic children and donkey interactions. It was quite difficult to translate these hidden interspecies repertoires at times and I understood how easy it would be to forget reflexivity and use a lexicon full of flowery language. Mostly, when there was a clear connection between dyads, it was quite unspectacular and frustrating to be on the outside of their quietly secret experience.

As Vanessa lamented, EAA has the opportunity to set the standard. Trainers who have utilised benevolent methods that develop into a symbiotic social contract surely amplify the potential for positive welfare-focused relationships within EAA.

Informants urged recognition of the need for variety in the equids’ daily work to prevent boredom. Burn (2017:141) suggested that ‘wild and domesticated animals are at particular risk [of boredom] in captivity...’ There are a plethora of activities and experiences that could enhance EAA sessions for both humans and equids that would mitigate the risk of a feeling that according to Burn ‘is undisputedly negatively valenced’ (Burn 2017:141). Informants cited many examples of non-human animals inciting and enjoying interspecies furores such as a dog and a Shetland pony racing each other, a donkey and a sheep grooming one another and a fawn and a foal actively playing in a field with both mothers watching from a distance. These anecdotes were offered as positive

examples of why EAA can, and often does, offer encouraging interspecies experiences within ethical parameters.

### **Ethical Consideration for EAA**

Serpell et al. (2008) explored the ethics of the broader theme of animal-assisted therapies or activities and highlighted some ethical concerns: 'the use of animals for animal assisted activities or therapy imposes a unique set of stresses and strains on them that the 'industry' is only just beginning to acknowledge' (cited in Armstrong and Botzler 2008:568). His concerns were mirrored by informants and ethics became the most agreed upon theme in the analysis.

There is a certain reality to establishing and maintaining EAA that goes beyond kind and thoughtful husbandry. Keeping equids requires funding and EAA centres need both funds and suitable staff. Dru and Dawn work with volunteers to help manage their moor ponies; however, it is their own physical efforts and equal determination that makes both of their individual projects successful. They do not compromise the welfare of their ponies, nor do they allow their ponies to be exploited for the well-needed funds crucial for their upkeep. Their integrity is truly impressive. However, they both stated what a challenge managing large groups of volunteers would be whilst keeping the equids' welfare in mind.

Some large providers are very good at marketing and although they may not be motivated by profit, their success depends on promoting good outcomes for the users. How these outcomes are interpreted and marketed may be influenced by outside pressures. Additionally, working with equids is still a desirable job. Dru

has been inundated with school staff who would like to work with her or set up their own EAA centres. She said that 'teachers or therapists with their own horses regularly ask me how to set up an EAA centre.' She felt that 'it is a concern, and I don't know why we only use horses anyway. What about cows? They are equally as sentient but they are not really considered.' Dru felt that the rhetoric around EAA was in part to blame on people's love of horses as opposed to other species and 'not because the horses particularly have something special to offer.' Dawn concurred that cows would be an interesting species and cited a colleague who had gently tamed and rode an ox!

Nikki disagreed. She works with all types of equids and cows and thought that cows would not be safe around strange people; they don't demonstrate body language and expression as clearly as a horse or donkey. 'You get a lot of body language with equids, if they want to get away they just walk off or if they can't they are more tolerant.' I asked if she thought it was ethical to use cows instead of equids if they were able to be gentled and she said 'yes, in theory, but they run each other down in the field so would probably run over the top of people too!' She also explained that people were not 'queuing up to rescue cows in the same way as horses.' Sarah also discussed cows because she had been contacted by a BBC program researcher to ask if she was willing to be interviewed about cows in therapy. She had politely declined because she felt it would 'fuel the problem of unrealistic media hype.' It was an interesting topic of discussion in relation to ethics because it seemed that certain species were perceived as more acceptable for therapy towards humans than others depending on their wider uses by humans.

EAA is not, as yet, properly regulated, which means anyone with an interest in equids and human wellness could conceivably start a centre. Informants agreed



that EAA centres should question if their staff are skilled enough to judge consent or willingness to participate based on how the human or equid presents. Dawn calls for equid colleges to offer more training and understanding of equids' emotional and welfare needs beyond riding: 'It is increasingly surprising that well-known equid training colleges and their literature are so out of touch with current scientific research on equid emotionality.'

Students learn to ride and don their horses with various pieces of coercive equipment, whereas, according to Dawn, their emotional needs are rarely mentioned. If EAA continues to grow, then specific training for centre staff should be compulsory she felt. There was general recognition that most well-being services for humans require trained staff. 'Very few people would take part in Yoga or Counselling' with someone unqualified, said Vanessa. She felt that people assumed that EAA was regulated and staffed by qualified personnel.

Regulations rely on people understanding and following them. Dawn pointed out that 'If it is regulated more carefully how could you ensure that the people doing the regulations have the correct information?'

Ben agreed, 'EAA is rife, and we are allowed to use equids this way in this country [UK] so I do think there should be functional guidance. Currently, problems happen when we try to influence the outcome which can become financial or even ridiculous.'

Sarah was due to speak at a conference when I interviewed her. She was presenting her thoughts on 'unconscious incompetence' that related to unqualified people running equid interactions under the guise of therapy, psychotherapy, coaching or even teaching. Her concerns were that people

didn't have the knowledge required to underpin their work 'but lots of individuals and companies make money by offering their own unregulated training.' Sarah was concerned that this level of unregulated practice extended to equid facilitated learning or coaching with equids. '[They] equally work with vulnerable people without recognised qualifications which is scary! Some of them are anxious about achieving results and outcomes which is far from useful to their clients or the equids. Both human psychotherapy and human with horses' psychotherapy is not a regulated profession with any overarching guidance or legislation in the UK. She argued, 'we are truly working in the wild west where anyone can set this stuff up.' Sarah was concerned that the media 'upping the ante and clients and parents sometimes don't know what the intervention are all about and end up disappointed.'

There were differing thoughts about who should take part in EAA or how some vulnerable people's involvement should be managed. I asked if it is fair to expose equids to people with challenging behaviour or offending profiles. Sarah didn't think it was fair to expose horses to war veterans with chronic post-traumatic stress disorder because they [equids] wouldn't be able to handle it. Some scenarios were described to argue against people previously known for aggression harming the equids during EAA sessions. Others offered hope for people who learnt to regulate their behaviour by being with equids under supervision. The key consensus was that the equid should be included as a co-participant and not just objectified as a tool.

Sarah felt that 'It has to be reciprocal or it is not ethical, we are 'using' rather than 'participating with'. And what are we modelling to the clients by forcing an animal to do it for us? If I work with people who have been abused I won't model doing the same with horses.'

Evans and Gray (2012) took a similar stance when they explored the use of animal-assisted therapies (AAT) for use by social workers. They suggested

We do not pretend that the animals and humans involved in AAT share the same privileges or power. However, the term 'co-worker' is used here in a deliberate attempt to acknowledge the temperament, skill and work that animals contribute to all parts of the social work process in AAT (Evans and Gray 2012:600)

The final theme explored within ethics was whether we should actually be asking equids to perform in this way. Ben felt that it was okay within the discussed parameters such as equality between the species. I asked if he thought that was possible. He answered:

Yes in premise but potentially impossible because we have already corrupted the situation by domesticating the animals and putting them into a situation and expecting them to be capable of something that wild, unhandled equids won't be able to do. Someone would get seriously injured by taking a wild mustang and putting her or him into a small pen and expecting them to tolerate touch from a human, vulnerable or not. It would be seriously dangerous, so you can see what the equids must have been though beforehand.

Vanessa agreed that both species should be considered equally: 'Yes absolutely, they are all persons.' Sarah and Dru felt that the equids' lack of voice meant that their welfare should be considered more than humans.

Both Nikki and Dawn maintained that the equids haven't really 'signed up for this' so we must treat their trust and willingness as precious. Their comments were in contrast to the social contract presented by Armstrong Oma (2010:175).

Dru holds what she calls the 'Golden Goose- equid trust' carefully in her hands, and ensures the young people that she works with understand their equids' needs as well as their own.

Suzannah, Dean and Sarah were content that their horses gained precious social interaction with people and showed behaviours indicating that they enjoyed it. Although they could live without people in an adequately resourced environment, that didn't mean that they would naturally be aversive to people. Dean also felt that the horses that he took out whilst cart-driving with clients approached him when he brought out the equipment, thus they were willing.

The sense of taking something precious from the equid in these sessions was discussed with all informants. It was agreed that EAA media should be extolling just how special sharing this time with an equid is and not overuse it. Suzannah thought that having a large herd for their own equid interactions was essential for their off-duty time and also ensured that the horses were willing and curious when they work with people as opposed to being aversive due to over-use.

Dru pointed out that 'horses are perfectly happy without it [EAA]. Done properly and sensibly the horse could benefit from EAA, but would they choose to? No, probably not.' She continued that 'the needs of ponies should be considered at least equally because the pony doesn't chose to do it. The welfare of the pony is our responsibility because we are asking them to 'serve' us emotionally.'

Dru's response put me in mind of Randy Malamud (2013), who I discussed in chapter 2. He cautioned:

There are a range of 'animal powers' that people do not have as keenly as other animals do. This sense of the animal strengths that humans lack combined with a sense of entitlement means that in our perennial

disability we are inclined to harvest, or co-opt, or borrow, or steal some aspect of those abilities, that able-ness, from other creatures (Malamud 2013: np)

Within EAA, we are borrowing or perhaps co-opting the equids' proposed ability to explore the emotionality of the human. In return they are existing in a centre that hopefully cares for them and ensures that their needs are met. Ben suggested that the needs of both species should be assessed against welfare and consent criteria before, during and after the session 'because it takes into consideration that you are dealing with a domesticated animal pre-trained, an animal at the influence of its individual distinctiveness, the environment that it lives and its history.'

De Giorgio (2015) wrote that we should take the horse's ethical stance when deciding what activities are suitable or not for them:

Understanding this ethical perspective means that a caregiver, volunteer, or professional will put himself at the service of the horse and not at the service of the functionality of human scheme. This perspective asks to preserve the autonomy, dignity, integrity and vulnerability of every individual horse, and in this sense, it is a process that we could call 'equids emancipation': a process of animal emancipation freed from the presumption of the horse as an instrument within the equids industry (De Giorgio 2015:126).

The concept of the equid as a tool was discussed by Vanessa who wondered why 'interventions needed to be alive, why must a person need intervention from a living, breathing [equid] being?' She felt that any kind of tethering or instruments for coercion may well make the equid a tool as opposed to the

‘friendly mirror’ that EAA suggested that they could be. On the other hand we discussed the fate of some of the equids if they were not performing EAA as she felt that they weren’t bred specifically for their job. Many of them ‘are injured or rescued’ that simply need to pay their way which is not always a bad compromise to the alternative [euthanasia].’ She likened it to her dog who was rescued from the race tracks: ‘I am hoping that I have given him a better life than if I hadn’t taken him in. He could go all around our property but chooses not to, he stays close so perhaps I have succeeded,’ she reflected.

Providing a welfare-rich EAA provision that assumes the equids are equal would not meet De Giorgio’s (2015:126) ethical perspective for the equids. However, informants agreed that, done well, it was a practical second place to full equid emancipation.

## **Final thoughts**

Peters and Black (2012) offer a scientific assessment of the horse’s abilities from their co-veterinary and horse training perspective in their book ‘Evidence Based Horsemanship.’ In it they dispel myths regarding the horse and other equid’s abilities that they argue are specific to their genus and not more or less intelligent than humans but simply different. They conclude that ‘The temptation to want to believe horses possess things in the same way as humans may make us feel better but it is inaccurate, leads to false assumptions, and is often at the expense of the horse’s welfare and wellbeing’ (2012:x). Notwithstanding their commitment to a corticocentric approach, they have a point that was echoed by informants right the way through the interviews. Earlier in the chapter I cited Haraway (2003:33) who made a strong point about the wellbeing of dogs

who people feel offer unconditional love and this resonates strongly with Peters and Black's concerns.

Equids are equids and not humans, and therefore anthropomorphic metaphors presented in EAA media have the potential to mislead people seeking interventions and experiences. The thematic analysis presented above confirmed that my experienced informants felt that there had been some misrepresentations in the media as well as some skilful presentations of reality. Their often candid and honest responses raised doubts about some, although by no means all, of the language presented by EAA websites and other media.

Birke refers to inconsistency in the language used by 'Natural Horsemanship' enthusiasts who move between 'quasi-scientific narrative' and 'seeking to emphasize partnership'. She suggested that 'the tensions between these two ways of talking reflect contradictory ideas about control versus freedom in relating to horses...' (Birke 2008 107). Like Natural Horsemanship (Birke 2008: 107; Hurn 2012:116), in EAA there is a desire to utilise the equids' perceived psychological powers in a benevolent manner that enables their free choice. However, there is still a control versus freedom dichotomy. Informants provided examples from their own experience but also from what they have observed about EAA websites and other media. A curious use of terminology and language was discussed and contrasted against the informants' knowledge of equids and this dichotomy was deemed as confusing.

Equid 'powers', as described by Malamud (2013: np) above, are only required in part it seems, after domestication or training has limited their 'free choices' to 'safe choices' from a human perspective. Informants were very clear that it wasn't possible to take a feral or unhandled equid and place them in an EAA

context without training. The nature of the training involved and by whom, raises the issue that these equids are complex individuals and their level of engagement within the sessions should be monitored on an individual level. It is not good enough or even accurate to assume that all equids will be suitable for EAA after generic training. Some may never be suitable.

Warkentin (2010:101) argues that:

The time appears ripe for a recognition of animals as complex, living beings, rather than as two-dimensional symbols, convenient metaphors, and passive objects of study. ... Arguably, whether by naïve or aggressive ignorance, much has been overlooked.

Utilising equids as passive healers even as convenient metaphors is too simplistic considering their individual character and husbandry experiences. The ethical considerations that informants raised included a real need for heightened attention to the equids' consent and welfare during sessions. They concluded that equids probably wouldn't choose to take part in EAA if that choice was possible to assess, so the fact that they do so should be greatly respected. Hall et al. (2008:249) suggest that horses can experience learned helplessness in some human-equid situations, so centres should be mindful of overloading them with monotonous sessions (Serpell et al. 2010: 481) and concentrate on more equal partnerships. Utilising the equids' instinctive intention reading trait should not be exploited solely for human gain. Informants were clear that this trait evolved for the survival and sociability of equid herds, not to be 'nature's healers [of humans]' as Vanessa illuminated.

Continual anecdotal evidence from individuals who have benefitted from EAA contrast with benefits presented in some of the main research findings that was



discussed in chapter 2. Perhaps, then, EAA should be reframed as a *potentially* positive activity within set ethical parameters. Benefits would highlight advantages for both species as opposed to changes in the intensity of the human's diagnosis as presented in chapter 2. Better to observe that if a 'secret world' does form between a particular child and a donkey, or any other interspecies interaction, it can only be judged as unique thing. Ensuring that ethical parameters are in place to enhance such interactions would enable something authentic to happen from the positional perspective of the participants, irrespective if observers have the words or methodology to describe it.

The integrity of EAA relies on realistic, evidence-based practice and claims. Perceptions about equid-assisted activities reflect the positional authenticity of stakeholders. Inaccuracies are not always due to overzealous marketing or media pressures; sometimes people want to believe that something ethereal or magical is there. Ben suggested that the need for a spiritual human-equid relationship is similar to people's need for religion. He believes that this is selling short the actual 'fantastic truth that equids can learn to understand and read humans, and in the right circumstances, they seem to want to!' But this thematic analysis reveals that welfare and ethical parameters are the key.

If equids can understand some human behaviour, as the evidence above seems to suggest, it is logical that the quality of engagement between dyads in EAA is measured. Chapter 2 provided a detailed account of the need for measuring engagement between autistic children and donkeys before conclusions can be made about benefits. Another equally important factor that the thematic analysis raised is how much equids modify their evolutionarily adapted behaviours that served them before they were utilised by humans.

The interpretation of qualitative data utilised in this chapter, thematic analysis, differs from the analysis presented in the following chapter. Qualitative accounts of both the human's and the equids' positional perception about their experiences of EAA are described within their tangential and rich context. Variation in data collection and analysis from both chapters, described as the 'the myriad practices and variant methods' that form the 'means' by Tracy and Hinrichs (2017:2), still follow widely accepted rules of qualitative analysis to achieve interpretation. The criteria for good quality analysis in qualitative research are what Tracy and Hinrichs (2017:2) describe as the 'ends' and are represented in a model called "Eight 'big-tent' criteria for excellent qualitative research originally proposed by Tracey 2010. Criterion for high-quality qualitative research is marked by a worthy topic, rich rigor, sincerity, credibility, resonance, significant contribution, ethics, and meaningful coherence (Tracey 2010) The criterion of quality 'can be approached via a variety of means and paths' (Tracey and Hinrichs 2017:2). Both chapters 3 and 4 meet the criterion as described but in ways specific to their enquiry.

This chapter utilised the 'means' specified by thematic analyses to follow an enquiry necessary to evaluation of EAA. Meeting the criterion for 'ends', resulted in salient themes to aid interpretation of the stories for the following chapter.

## **Chapter 4: Five Stories: interactions between autistic children and donkeys explored through narrative analysis and narrative ethology**

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### **Narrative Analysis and Narrative Ethology**

This chapter presents narratives that I collected during the fieldwork element of my thesis. In keeping with my mixed-methods approach (see Introduction) to selecting the most appropriate method to the enquiry, I have selected narrative analysis including narrative ethology. Polkinghorne (1995: 4) described narrative as ‘the linguistic form that preserves the complexity of human action with its interrelationship of temporal sequence, human motivation, chance happenings and changing interpersonal and environmental contexts’. I have extended their human depiction to include a non-human species, in this case donkeys, who also have complex and interpersonal stories to tell. In her book ‘Animal Stories: narrating across species lines’, McHugh (2011) introduces the field of Narrative Ethology. This she argues, is more than ethologists telling stories about other species through video and media. She proposes a simpler formula than previously used in wildlife documentaries and other media. Her formula encompasses the ethics of portraying other species by ‘commitments to living with and learning from animals ethically...an ethics premised on feelings honoured as concrete, intense, and shared’ (McHugh 2011: 218).

Narrative ethology requires a non-anthropocentric approach to presenting interspecies stories. Its techniques and methods encompass human orientated narrative enquiry but ensure that the other-than-human stories are represented equally.

The stories about interactions between autistic children and donkeys that I collected throughout June 2015 – December 2018 played an essential part in shaping this thesis. During the early stages I conducted in depth research of the literature and most recent research findings. Concurrent with my reading I began observing as a participant observer whilst volunteering at a Donkey Sanctuary Interaction centre. This perspective brought EAA very much alive and off the paper. By the end of the first year I began observing as a non-participant, but just being amongst families, grooms, children and donkeys meant that stories continued to be abundant all around the centres. A visit to an Italian donkey sanctuary further filled my notebook with stories and perspectives that shaped my ideas for the importance of the environment in interpersonal meeting spaces.

It became apparent very early on that understanding lived experiences of humans and donkeys was the key to gaining insight about EAA. Insight flowed in the form of individual stories and how they meshed together with others' stories embodied in context and perspective.

## **Narrative Enquiry**

Webster and Mertova (2007:1) proposed that narrative has gained momentum over the past few decades 'as a nascent research methodology in its own right with a potential for use across a wide range of disciplines'. They suggest that its use has been 'influenced by a philosophical change of thought to a more postmodern view with its interest in the individual and acknowledgment of the influence of experience and culture on the construction of knowledge' (Webster and Mertova 2007:2). For the purpose of this chapter I use an extended form of

narrative analysis to include donkeys. Stories about non-human species are described as narrative ethology and they 'point to animal fictions as models enabling significant epistemological shifts within animal science' (McHugh 2011: 211).

Jerome Bruner, in his seminal 'Actual Minds, Possible Worlds' book (1985), argued that there are two different ways in which we know about the world: the paradigmatic and the narrative (Bruner 1985:13). The paradigmatic approach is akin to quantitative, mathematical and logical methods. Bruner suggests that 'there is a heartlessness to logic...scientists wash the stories away when causes can be substituted for them' (Bruner 1985:13). Narratives, however, contain intention and action in the analysis that, Bruner argued, include the 'vicissitudes and consequences that mark their course' (Bruner 1985:13). Using narratives as a research method is not simply gathering and re-telling other's stories from my perspective; it involves the use of an analytic process that results in storied accounts (Polkinghorne 1995:18).

Methods such as Thematic Analysis employ the grouping of written transcripts into common themes (see Braun and Clarke 2006). Thematic analysis, by its very nature, removes the organised plot that lends the stories context (Polkinghorne (1995:7). Thematic analysis was useful for exploring the themes and shared ideas of informants around the language of EAA (see chapter 2). However, it could not offer intact, contextualised storied accounts from individual participants whose experiences I wished to know. The motivation, action and events of the interspecies stories that I present below relied on reasoned analysis of the specific episodes, intact and in sequence.

Polkinghorne wrote that 'the cumulative effect of narrative reasoning is a collection of individual cases in which thought moves from case to case instead

of from case to generalisation' (Polkinghorne 1995:7). A narrative analysis of the stories presented by the caretakers of autistic children and donkeys who took part in EAA offers the most appropriate methodology for representing their individual stories and complements the more quantitative approach of the next chapter. Throughout this thesis I have argued about the importance of understanding participants as individuals even if they have a common label such as 'autistic' or 'donkey.' Clandinin and Connelly (2000) pointed out that 'people are individuals and need to be understood as such, but they cannot be understood only as individuals. They are always in relation, always in a social context' (Clandinin and Connelly 2000:2). Narrative ethology supports my intention of representing individualised participants but allows them to be embedded in their own social contexts.

Combining the next chapter's quantitative analysis, which reveals group commonalities, with narrative analysis, which presents individual cases within their social context, offers an extensive perspective of EAA.

### **Framework for Narrative Enquiry**

The framework that I have chosen to utilise for this aspect of the research is based on the narrative enquiry model presented by Webster and Mertova (2007:104). Their model is flexible to accommodate 'the difficulty of superimposing a framework on something that is so 'human' and thus variable' (Webster and Mertova 2007:103). They recommend that the model is 'for the researcher to adopt, adapt or further develop' and thus I have adapted it to include the equally variable perspective of donkeys.

## **Methodology**

The settings for this chapter's qualitative data collection are Apple Orchard, one of the Donkey Sanctuary's interaction centres, and another centre based in Italy. Narrative analysis (Webster and Mertova 2007:104) combined with narrative ethology tell the whole story of four autistic children and donkeys in sequence and in their tangential context. It also tells the multispecies stories of several autistic adults and their donkey partners based in the Italian Alps.

## **Processes**

The process section of this framework is made up of two components: tools and structure. Tools refer to the 'selection of instruments the researcher elects to use' (Webster and Mertova 2007:104). The tools used in this and the next chapter include observation and notes that carers kept called 'immediate thoughts records.' Caregivers and researchers used action research to collect data but I also conducted semi-structured interviews with families in their homes, and grooms at the Donkey Sanctuary, both in the UK and Italy. I discussed informal notetaking in the previous chapter (Bewley 2002:343) that led to a deeper knowledge and collections of spontaneous narratives. In some cases I followed up my enquiry with caregivers by telephone or email.

Aull Davies (2012:106) makes the point that interviewing often goes beyond the boundaries of general conversation or formal questioning such as surveys. She suggests that 'In very many of these studies, the relationship between researcher and respondents, while not meeting the extensive time involvement

of classical participant observation, extends beyond the immediate parameters of the interview' (Aull Davies 2012:106). This was certainly the case with four families and five grooms that I interviewed. As we met each week for sessions our relationship became much more informal, allowing for what Kelly (2010:307) described as 'qualitative textually rich data.'

Process also contains the structure that Webster and Mertova explain as 'the context and the setting by referencing to those elements that combine to form an image of the structure in which the research took place' (Webster and Mertova 2007:107). The four child-donkey dyads and their caregivers came together in the summer of 2016 at Apple Orchard, one of several branches of the Donkey Sanctuary that provide donkey interactions for people. The name Apple Orchard is a pseudonym to protect the identity of contributors, as recommended by the Association of Social Anthropologists' Ethical Guidelines (ASA 2011). Following ethical approval (University of Exeter, College of Social Sciences and International Studies' Ethics Committee 201516-090, 6.6.16), child participants were recruited through PenCRU (Peninsula Cerebra Research Unit), a childhood disability research team based in Exeter. Four children aged 4-9 years old who were diagnosed with autism and who were pre or non-verbal were recruited. After parents had made contact with me to express their interest in the study I visited them at home when their children were at school and gathered information about their children and their family lives via semi-structured interview. All four families were willing to share insights about their children and how their autism impacted on or enhanced the lives of the whole family. Grooms volunteered to assist me with the research and prepared written reports about the history and current lives of each of their donkeys. They also



provided additional information during semi-structured interviews prior to and after the four weeks of interactions.

The interactions took place on the same day and time over a four-week period at a Donkey Sanctuary interaction centre on a grassed area in close proximity to other donkeys on site. Parents arrived with their children just before the session was due to start so that the children could go straight from their parent's car into the interaction space. Donkeys were led to the interaction space when the children arrived so that both entered the novel space at the same time, enabling a shared sense of curiosity about each other and their new surroundings. Caregivers were present and visible to children outside of the interaction space for all interactions. Immediate thoughts records were completed by caregivers. All sessions were video-recorded and interviews transcribed to ensure verisimilitude. Four weeks after the interactions took place I contacted caregivers by email for further thoughts or concerns that may have arisen following the time gap.

Prior to starting the final planning design for the four children and donkey dyads, a senior advisor from the Donkey Sanctuary invited me to visit one of their branches in Northern Italy. I obtained permissions for observing and photographing participant adults with learning difficulties from caregivers (facilitated by the Italian team). The tools used for this trip were the same as for the autistic children and donkey observations. I also took still images around the sanctuary and whilst on a site visit to a local mental health hospital with permission obtained by the hospital project manager and occupational therapist in collaboration with carers of the adult participants. The sessions that I observed in Italy were part of the Italian sanctuary's regular interaction sessions and not specifically for this research.

## Negotiation

Negotiation is the second constituent part of this framework for narrative enquiry. It includes gathering an understanding of relationships in the enquiry. Caring relationships involve potential collegiality, community and collaboration 'or are valued by those participating in the research' (Webster and Mertova 2007:107). 'Empowering relationships are those that involve a chain of authority and the need to conform to it, the need to represent the home institution of the researcher responsibly and the various practices that are adopted or exhibited within the research context' (Webster and Mertova 2007:107).

Negotiation provides an interesting aspect of this framework for narrative ethnology and analysis because of the differences in relationships that children have with their families from that of donkeys and their caregivers. In some ways the children and donkeys are similar because they are both unable to explicitly express their perspectives verbally, nor are they free agents able to remove themselves from their caregivers. In theory both children and donkey relationships with their caregivers are caring as described above and both have to conform to a chain of authority to keep them safe. Adults with learning difficulties who were cared for in Italy were also part of a caring relationship but their carers and more senior institution staff represented empowered relationships.

Care or caring is not a straightforward description. Van Dooren (2014:291) mused over the issue of care whilst exploring Puig de la Bellacasa's (2012) work 'Thinking with Care.' Van Dooren concluded that caring is an embodied phenomenon: 'to care is to be affected by another, to be emotionally at stake in them in some way' (Van Dooren 2014:291). But he also observes care to be

ethical, 'to recognise an obligation to look after another' (Van Dooren 2014:291). The final component of how he understands care is that it is a practical labour, one where the carer takes laboured care of another. All three of Van Dooren's observations about care were apparent in this research. The practical labour that both grooms and parents carried out was physically taxing. Yet I observed practices that demonstrated how carers were emotionally affected by their children or donkeys as Van Dooren suggests. I noticed that the manifestation of how they cared was seated within their own ethical practices. A clear demonstration of that is in the story below 'Ciao Chico' and the considerate care a groom took toward a donkey with sore feet or how another walked donkeys back to their night-time locations. I also saw particular instances of parents whose care was indeed embodied and this was visible by the concerned feelings that they described over their children's ability to have 'something for themselves.'

Perhaps the labels 'caring' or 'empowered' are too blurry and not suited to this particular enquiry, but they do raise an important consideration when representing these particular participants. Bekoff and Pierce (2017:148) discuss how labelling other species can sometimes cause harm, in particular terms like 'invasive' or 'indigenous.' They argue that these labels are not scientific, but instead are rhetorical and political and serve to create a set of attitudes. The word caregiver also creates a set of attitudes and with Van Dooren's descriptions above, there is a need for clarity of the phrase for this research. Caregivers of children or adults with learning disabilities provide physical labour driven by embodied and ethical care but they also act as preventers of harm. An example of this would be preventing a child or adult from running across a road or self-harming. The four donkeys introduced in this chapter were ultimately

housed in an animal welfare charity after being in other circumstances. Their caregivers work for the charity and follow prescribed policies and procedures that are governed by authority figures. Caregiver-grooms are not free to diverge from the practice or teachings of the charity without prior permission and this rightly ensures a consistent approach to their donkey's care and welfare. In contrast, the four autistic child participants live with their families who are free to seek practice and theory about their children from anywhere within the lawful recommendations of the Children's Act 2004. Being autistic and also children, they too require consistency in approach from their caregivers but there is much more flexibility in how that can be expressed than there is in the case of the grooms.

My own role of researcher falls under the empowered classification. I adhered to terms of the project's ethical approval (University of Exeter, College of Social Sciences and International Studies' Ethics Committee 201516-090, 6.6.16) and I worked within the framework set out by the ethical guidelines of the Association of Social Anthropologists of the UK and the Commonwealth (ASA 2011) and the Association for the Study of Animal Behaviour (ASAB 2018). I was not free to follow enquiry further than I had previously set out in my ethics proposal and just by being the person collecting stories I held a certain authority.

Yet in spite of the various multidimensional relationship categories within this project, the stories that did emerge benefitted from the narrative ethology approach. The differences in caring or empowering caregiving relationships between the species was lessened because '[Narrative ethology] emphasises embodied relations of agency and form as distinct from say, the content through which ethological, fictional, and all other narratives get sorted and shelved as

the political problems of representation' (McHugh 2011: 218). Caregivers shared their accounts of the humans or the donkeys and my role as researcher was to analyse their representative accounts to inform the stories of participants through this narrative framework. The negotiation constituent of this framework includes understanding relationships and although participants are considered equally, the Animal Welfare Act 2006 states that animals, donkeys in this case, are owned and therefore property. Thus, it was important to be mindful about the donkey's status difference and how it may have affected informant's perceptions.

## **Risks**

Risks is the final constituent of the framework for narrative enquiry. Webster and Mertova suggest that 'in establishing the integrity of the methodology of narrative enquiry, the benefits of narrative cannot be viewed without due consideration of the risks involved' (Webster and Mertova 2007:108). The risk component of their framework is made up of intersubjectivity, smoothing and external risks. According to Webster and Mertova (2007:108), 'Intersubjectivity is the easy slipping into a commitment to the whole narrative plot and the researcher's role in it, without any appropriate reflection and analysis'. This is not the same as the intersubjectivity presented in other chapters of this thesis, which describes the knowledge that the other person has agency that is different to oneself (see Hurn 2012: 126). Here, intersubjectivity is the risk of not being reflexive with the data. It was essential that I checked my understanding with the participant's caregivers on several occasions both in person and by email. Storied accounts of participants who were unable to clarify the accuracy

of my writing because they were non-verbal children or donkeys required much more in-depth checking.

FitzHywel (2018:1) contends that 'as animals cannot respond to the narratives we create about them, we have an ethical responsibility to question the ways our relationships with animals are constructed'. By utilising Webster and Mertova's framework (2007:104), donkeys and children are presented as equal participants and thus their stories are crafted using the same narrative analysis methodology. The risk of aggrandising or misrepresenting participants' responses was minimised by continual checking with caregivers. My previous knowledge of both autism and equids provided a certain advantage during observations but also put me at risk of generalising. Ultimately these participants were individuals best known to their caregivers. Where my interpretation of observations differed from that of caregivers, conversations that presented both sides took place and in most cases agreement was reached. If differing viewpoints of the same events remained, they were included as perspectives in the stories.

Smoothing is another risk presented in this model and it involves 'the tendency to invoke positive results regardless of the indications of the data' (Webster and Mertova 2007:109). This was less of a concern with this project because there were no specified outcomes or expectations other than recording the lived experience of the participants. Caregivers were briefed prior to this project and understood that there was no desired outcome from the research perspective. Despite this briefing, in one particular case the family recorded a more positive outcome than that observed by others; this is discussed in story five, 'It's not for everyone'.

Webster and Mertova highlighted that

As well as risks that are intrinsic to the research approach, there are extrinsic risks, including those imposed by the constraints of the culture or the operational context of the study, sensitivities to times that discussions can be arranged with research participants, and the 'state of mind' of participants, particularly an especially demanding event.

Webster and Mertova (2007:109)

There was the potential of an extrinsic risk whilst interviewing Italian grooms in English. Most were able to converse well in English but sought the services of a fluent member of the team when they were stuck for words. My Italian was very basic so there was a potential to miss nuances in conversations. Narrative ethology is more heavily influenced by the researcher observing non-verbal participants than by other forms of narrative enquiry that translate verbal accounts. I used my perception of observations for clarification with Italian interviewees with the assistance of an Italian groom who was fluent in English and acted as an unofficial translator.

Fortunately the four child-donkey observations all took place as planned, with all participants attending apart from one child who missed the final session. The Donkey Sanctuary were able to dedicate a generous amount of time to this project and therefore there were no constraints based on the venue, operational context or the availability of the donkeys.

The final risk for discussion is in relation to presenting the experience of non-verbal participants under the auspices of narrative ethology. I was mindful to avoid what Foster (2016: xiv) suggests are the 'two sins' of traditional nature writing: anthropocentrism and anthropomorphism. Ensuring that both species

were considered equally reduced the risk of anthropocentrism. Yet writing from a (neurotypical) human-centred position or imposing the (neurotypical) human condition onto autistic children presents a similar anthropocentric challenge to writing about donkeys. Although we have some neurobiological evidence to suggest how both species perceive the world, we can't know for sure what they are experiencing as individuals. In chapter 2 I introduced Jakob von Uexküll's notion of Umwelt: 'worlds strange to us but known to other creatures' (von Uexkull 1934:319). He bravely attested to the personhood of each species and to each individual within that species experiencing the world in their own way at a time when non-human consciousness was questioned. Not being able to fully understand another animal's umwelt (autistic humans included) may be a risk but it is not a sound reason to ignore that they exist. In the next chapter, the Quality of Engagement tool reveals how the behaviour of both members of the EAA dyad is intertwined; therefore, I have equally presented stories representing what I observed and others observed about participants of both species. Wittgenstein (1953:223) famously said 'If a lion could speak, we could not understand him'. Foster (2016:21) thought that he was wrong. Lions communicate in their own way and we just need to make several approximations to find the truth of what they are saying based on ethological knowledge and our own understanding as a social species. Vanessa, in chapter 2, said the same of horses: she has spent a lifetime learning to understand horses by their body language and feels confident about describing their communication. The methods that Foster uses in his book 'Being a Beast' include living in a hole and eating earthworms whilst learning to be a badger and trying to catch fish with his teeth whilst learning to be an otter. He does these things in order to experience an approximation of the lives of the species that he



studies using his limited senses in comparison to theirs. Sitting 'naked and shivering on a moorland' helped him answer the questions, what is a human and what is an animal? His answer applied to both: 'It's a rolling conversation with the land from which it comes and of which it consists' (Foster 2016:21). My years of experience of both children and adults with autism as well as keeping equids ensured that I gained an understanding of what mattered and what didn't in their lives. It didn't seem necessary to sleep in a field with donkeys and eat straw to gain an appreciation of the rolling conversation between where they came from and where or how they live, but their eating, sleeping, excretion and social relationships were essential parts of their own stories. Using narrative ethology enabled me to present their lives in their own donkey context in the same way that I present the children's in their own context.

## **Results**

According to Webster and Mertova (2007:109), 'Results need to be described in a way that will allow a reader to revisit extracts of collected stories to facilitate their own conclusions and understanding of the research data'. These results should follow a critical events approach that 'allows a mind filter to influence the reporting, that is to say that the presented data consists of events recalled by research participants because of their impact and importance' (Webster and Mertova 2007:109).

The five stories presented below are the result of a critical events approach for both species in each dyad. Events that are impactful and important do not need to be dramatic or a major part of a story and I have tried to ensure that the reader has space to draw their own conclusions from the examples of EAA that

I give. I have presented the humans with pseudonyms for their names and sometimes changed their gender in an attempt to protect anonymity in this small population. Donkeys are presented with pseudonyms because they are often visited by members of the public and therefore they too have a right to anonymity. As stated in the Introduction, the Donkey Sanctuary is named with their permission, but the branches of their interaction centres have been renamed with pseudonyms to protect the anonymity of stakeholders involved in this research.

### **Five Stories**

The first of these stories is set at a Donkey Sanctuary in Italy during May 2016. The rest are set at Apple Orchard during the summer of 2016.

Bruner 1985 (cited in in Charon and Montello 2002:8) said that ‘telling stories is an astonishing thing. We are a species whose main purpose is to tell each other about the expected and the surprises that upset the expected, and we do that through the stories we tell’. But Bruner hadn’t met Chico, from another species, whose main purpose was also telling stories. And who peed on the same grass verge each week outside a mental health hospital in northern Italy. Chico left his story for other donkeys to read so that they knew what to expect of him and if he had any surprises for them that day.

### **Ciao Chico**

My trip to one of the Donkey Sanctuary’s branches in northern Italy proved to be of great consequence to the design of the EAA interactions described in the next chapter. The Italian team were in the early stages of setting up EAA and

were in a different position from the UK centres because they lacked a purpose built centre. They were also obliged to follow guidance set out by The Italian National Reference Centre for Animal Assisted Intervention (NRC 2015). These guidelines requested that only qualified mental health staff offered ‘therapy’ for human individuals and that qualified animal welfare staff cared for the donkeys during and after interactions. The Italian Donkey Sanctuary team therefore offered ‘interactions’ with donkeys at their centre and, where individuals required mental health professional support, the donkeys went to them in their appropriate facility. That way ‘therapy’ for humans was delivered by therapists



*Photograph 2: Exploring Mobility Equipment*

and donkey welfare was supported by the Donkey Sanctuary team. Due to the background of some of their equids, there were only four donkeys deemed suitable for interactions at the centre

and because of the NRC guidelines, it was only being offered to adults with learning difficulties at that time and not to children. Donkeys were prepared for interactions by the staff who used techniques such as placing mobility equipment (wheel-chairs etc.) into their paddock and allowing them to explore them. Later staff would sit in the wheel chair and allow the donkeys to explore them with their mouths and noses, but would rebuff over-zealous teeth by withdrawing affection. I was offered the opportunity to sit in the wheel-chair during one such session and realised very quickly that consistency and hyper vigilance reduced nips. The groom who took over from me (and who didn’t

seem to get any nips) explained that once the donkeys were desensitised to the equipment, their focus moved towards the human. It was important that during their 'training' they understood humans could be nice to be with but that our communication methods did not include nips like they would with each other. Other means of communication included rubs from the donkeys and scratches from the humans. There was no specific training to enable donkeys to relax next to a human without physically interacting at all, yet I often observed them doing so.

On my first day at the centre I was stuck by the raw beauty of the place. It was in a reclaimed woodland area set at the foot-hills of snow-capped mountains with the freshest air. Following the framework for this narrative analysis required details about the structure that:

[E]nables a picture to be drawn not only of the main characters but also of the setting in which they work and the structures and systems that impinge on and influence them. Perhaps most importantly, this approach stresses the human [read as 'interspecies participant'] component of the research, as it explains the context and events in which characters within the research are placed (Webster and Mertova 2007:107).



*Photograph 3: Room with a view*

The interaction setting of this story was highly relevant to the lives of the characters. The panorama observed whilst I was sitting on a bench outside the centre with a resident cat purring on my lap was

enormous. In the foreground donkeys milled around singly, in pairs or in groups, eating, playing or sleeping in the watery sun. During May 2016 the Alps on the Italian side were still topped with snow and this formed the backdrop to the donkey's home. There were large swathes of open space with abundant flora and fauna intertwined and surrounding the centre. Some donkey areas consisted of semi-felled forest with plenty of trees and scrub for shade and grazing. From my perspective, it looked idyllic for the donkeys and their human caregivers.



*Photograph 4: Italian Savannah*

The donkeys were separated into small herds that mimicked the social structure of their wild counterparts. Many of them relinquished or rehomed in Italy came from working backgrounds and some had

lived solitary lives without members of their own species for company. Some groups were bought into the centre as an established group and were kept together to minimize distress in new surroundings. Occasionally donkeys were placed in very small groups or pairs because they were unable to tolerate larger groups or young donkeys harassing them to play. Each enclosure had dry grass, scrub and sandy ground under-foot with large shelters that the donkeys could access if they chose to. Their straw and water was plentiful and always available. Each large enclosure that housed groups of donkeys had views, smells and sounds of other herds, the mountains and surrounding vegetation.

There was a small road adjacent to the sanctuary but traffic was very light and it was a good distance away from the donkeys. The donkeys' manure was cleared out once daily so that they were able to use the scat for scent marking or story telling but it was not left down long enough to become a health concern. The equids' needs were tended to by local, highly skilled staff. Individual grooms acted as key workers to individual donkeys and strong interspecies relationships were highly visible between grooms and donkeys. On one occasion I saw a groom change a foot poultice in the donkey's enclosure. He did so in amongst the herd without using a head collar or tying up the donkey. It was quite a testament to their relationship because the donkey was obviously foot-sore, but under the skilled hands of his human companion he stood quietly, ears and eyes soft whilst his foot was undressed, washed and then re-dressed again. The donkey's equid companions continued to graze and generally mill around during the process and both equids and human looked calm and relaxed in the afternoon sun.

I was invited along to observe a session in a large mental health hospital for adults with learning difficulties in the Italian Alps. It was an outreach project that had been running for one year at that point. The following is an excerpt from my field journal written at the end of the visit.

'Today was not a day for predetermined ideas about people or donkeys, but if my continual efforts to be reflexive failed slightly it was because the day held one surprise after another.' Initially, I was told that we were visiting an outreach project by my host and centre manager Grace. As we were walking towards a large barn I noticed that all of the donkeys were inside eating straw and only one was on the outside yard. I thought perhaps he was shut out by accident but I noticed that the large doors were open so that all of the donkeys were at

liberty to move either inside or outside as they chose. A small truck with an attached horse box was stationed outside of the yard on full display to the donkeys. The loan gelding, who we shall call Chico, began a quiet breathy bray at Grace who in turn spoke back to him in what I presume were terms of endearment. Grace let herself into the yard and both she and Chico rubbed against each other looking for all the world like long-lost friends. She told me that they did that every day as a greeting. I asked her if Chico knew where we were going and she said: 'of course, that is why he is waiting!'

Chico received his head collar and followed Grace into the horse box with a very loose lead rope between them. His ears were relaxed with one on Grace and one on me, the newcomer. I was sure he would have followed her into the box without the head collar. He proceeded munching on the straw-stuffed net tied inside the horse box. I sat with Grace in the truck whilst she drove and she chatted enthusiastically about her work. Although we were driving through towns and villages we were still framed by the snow-capped Alps in the distance and the air smelt very fresh.

The institute was huge. I could see it from way below in the valley and as we wound our way up to it I had a sense of dread for the amount of people that must have been in there. On arrival, we parked near a patch of grass that Chico meandered over to and began a huge pee.

Equids are often confined to stables for hours at a time when in some domestic and commercial situations. When less confined, like the Italian Donkey Sanctuary donkeys, they rarely soil their own bedding or eating space (Gruenberg 2015: 399) and Chico was no exception.

Grace explained that she and Chico followed the same routine each week and he couldn't pass the grass without peeing in the corner! We were taken to a huge veranda by a member of staff and asked to wait. I felt quite nervous and battled the urge to stroke Chico for my own comfort; he was busy exploring the floor with his nose and tactile muzzle hairs and looked totally at home. The veranda leaned against the main building on one side and was open to the elements above a 4-foot wall on the other but it had a roof and presumably offered a secure outside space. It was a perfect setting for this interspecies interaction. It offered a secure inside-outside space framed by a view of the distant Alps. My apprehension spilled out and I stroked Chico who pulled away from me. Grace has a wonderful calmness around her and smiled nearly all of the time. I noticed that she had taken Chico's lead rope off so he began walking up and down the veranda exploring all corners. When the nurses arrived with four residents I was shocked to see Chico casually walk over at complete



*Photograph 5: Chico and Gino*

liberty, to each and every one. During the hour session he alternated between approaching the residents and retreating from them as he wished. Each resident reacted differently to Chico, some gently touching him and others just saying his name and putting their face near him; it was strangely moving and hard to describe. If residents got loud or too rough he moved back but if they modified their approach, he wandered back toward them. One elderly gentleman who we shall call Gino, used a wheel chair for mobility and a tray of communication objects to interact with



staff. He was a quiet man and I noticed that Chico often explored Gino's tray during the session. Gino in turn whispered Chico's name very quietly and laughed gently when Chico sniffed his face to ascertain information about him. The hour passed quickly and the residents were encouraged by their carers to say goodbye before they left which was a nice sentiment but lost on Chico who walked away from the cacophony of carers yelling 'Ciao ciao Chico.' I marvelled at my poor recording skills because my field note book lay open, without a word written. I began to try and articulate the engagement that I had seen but couldn't find words that sounded like a non-participant observer would use. As I looked down at my empty journal I heard a screech from the corridor that made me jump; I expected Chico to startle but he actually walked, ears towards the noise coming closer down the corridor. Bella arrived with two dishevelled carers in hot pursuit. She was quite a tall, slim young woman who I understood to be autistic and 'challenging.' She saw Chico and began flapping her hands, rhythmically



*Photograph 6: Buried face*

rocking whilst vocalizing small squeaks. Chico approached her tentatively, ears flicking forwards and backwards and tail slightly tucked. She suddenly calmed, touching him on his back gently and began following him as he walked much more relaxed down the veranda. Chico found walking slowly with Bella much more calming than being stood still opposite her. When standing still she tended to bury her face in the back of his neck area and he did not like it. For the 15 minutes Bella was



*Photograph 7: Together*

with Chico she stayed mainly pacified, but when she did flap her hands and screech he walked purposefully away; this seemed to stop her in her tracks whereupon she calmed again and then they walked side by side. He always kept one ear on her and she generally trailed the fingers of one hand along his back. He stopped several times to allow her to catch him up and then began walking slowly with her again. The symmetry between them was uncanny.

On the way back to the centre I asked Grace if the institute allowed people out of the institute and she laughed and told me that they follow a wonderful program of community activities and some people only came occasionally for respite services. Suddenly, the huge building was not imposing at all but bursting with opportunities. The institute was professional and progressive, the donkey sessions were a collaboration between an innovative occupational therapist from their team and the equally innovative Grace. Chico interacted with the residents in a typical donkey way, modifying his behaviour like an adult with a foal yet moving away from troublesome herd mates as he wished (de Waal 2017:104).

The key words from the day that I wrote in the margin of my note book were: simple, gentle, unencumbered, and ethical.

The rest of the week followed the same theme. Each encounter that I witnessed was set against a backdrop of the natural environment and there was no coercion or equipment forcing people together (see Ingold 2000: 307 below).

One memorable session was when a bus arrived at the centre earlier than expected and there was a frantic rush of staff to clear a space for the interaction. One of the larger enclosures with several donkeys was cleared of manure and stray straw and washed down with water. I was amazed to see four donkeys waiting to be let into their newly cleared yard and also four adults with learning disabilities waiting on the other side of the fence to enter the space. Once gates were opened and participants were together there was a flurry of exploration. The adults all had carers close to them but none of them needed much support. One man saw my camera and came over to look through the viewfinder. He was middle aged and quite a large, tall man. He did not use any speech but gestured towards my camera without making eye contact. I placed the camera strap gently around his neck and showed him how to press the shutter whilst hoping that I had done the right thing. First of all he approached a small beautiful mare that we shall call Daisy. His fast approach startled Daisy and she walked backwards several steps. Her eyes became quite triangular and her body tense. Daisy looked at the exit but decided to take a chance and see what would happen. The gentleman with my camera took my hand and placed it on Daisy's back. I realised that he wanted me to stroke her and was probably quite reluctant to touch her himself. Daisy relaxed but kept one ear trained on the gentleman at all times. He lifted the camera and took a picture of Daisy then several more of other donkeys whilst laughing and becoming excited. I began to feel uneasy and focused on the camera, wondering how I was going to retrieve it when I felt a little nip on my hand. Daisy had nipped my hand because I had

stopped stroking her and I had become tense. She leant against my leg and rubbed her shoulder on me to indicate her desire for more scratches but I was increasingly distracted by my camera that was rapidly disappearing with its new operator. Fortunately a member of the team saw what was happening and offered to take a picture of the gentleman, thus retrieving it without an adverse reaction. He stood with the person pointing to what he wanted photographs taken of, but did not want his own taken.

One lady, who we shall call Rita, stood apart from the donkeys and other adults. If any of the donkeys approached her she moved away and did not look at anyone at all. Her carer kept trying to engage her with the donkeys but she was clearly uncomfortable and never actually approached any. I noticed that her carer kept trying to pull donkeys over to her client but none complied. Another large lady, who I was told was autistic with Down's syndrome, had been in the toilet so didn't enter the yard with the other people. She later ran into the yard with gusto waving a grooming brush that she had found somewhere (no one was sure where). Her carer had tried to prize the brush out of her hand but she did not release it. Her loud behaviour startled the donkeys and none of them approached her. As her frustration escalated at not being allowed to brush the donkeys her movements were getting more and more aggressive and she



*Photograph 8: Any more strokes?*

began screaming. It was at this point I noticed Daisy defecate and move towards the exit. Daisy's groom began to usher the rest of the donkeys back into their barn and waved

to the adults to indicate the session was over. When the irate lady was safely in the mini-bus the rest of the adults stood outside the pen. There was a calm moment and then two of the donkeys came out of the barn area and walked towards them and stood close to the fence for any more strokes that were on offer. I had seen obvious stress signals from the donkeys' minutes before but these were quickly replaced with attention-seeking behaviours and clearly had no obvious lasting effects.

During other similar sessions both species were given the opportunity to interact and on the whole, they did. It was obvious that the simplicity and honesty of the Italian centre's sessions were the key to their success. Grace stood slightly apart from the encounters, close enough to step in if necessary but she allowed the interaction to flow without any encouragement or expectations. I made a mental note to suggest that during my forthcoming EAA sessions in the UK, facilitators should support the sessions in the same way as Grace. I also realised that having these unstructured interaction spaces with a natural-sound and scent-scape reduced possible stress caused by an alien environment. Donkeys were comfortable with their companions and the smells, sights and sounds of their familiar multisensory environment. The adults who visited them benefitted from being immersed in this visceral, earthy environment.

It was difficult to find the right words to put in the field notes because so much happened in complete silence with a few subtle moves. Some of the sessions that I saw in Italy were quite mesmerising but I had a sense of foreboding for how they could be misrepresented in other narratives. I imagined that if the interactions were animated for a children's movie, the characters would all have huge eyes framed with long eyelashes and both actors would have done a lot of looking up through half-closed lids in awe of each other, very much like Mowgli

and Bagheera in the original Disney adaptation of the Jungle Book (1967). It concerned me that these donkeys could easily be portrayed as something that they were not.

There was a certain novelty to the interaction sessions set in the donkeys' paddocks and therefore the temptation to inflate what happened would be rich pickings for the directors of the movies cited in chapter 2. There were donkeys in the background of the interactions who clearly were not interested in these novel humans and stayed well away. There was also a clearly curious group who found the interruption to their eating and playing intriguing and worthwhile in that they actively sought out scratches and strokes. Some of the adults who visited were expressive and curious about the donkeys but some were not. It was easy to see how one interaction between an autistic man who spent his time gazing mesmerised by the Alps whilst being leaned on by a donkey could be presented as something other than it was. I had seen the same donkey standing in the same spot before the man arrived and he was clearly dozing and not particularly bothered by the man. The man's carer said that his behaviour was often the same and his staring into the distance was common wherever (and whoever) he was with.

At one point I wrote a note to myself that some of the humans' carers 'interrupted' the engagement by either stroking the donkeys or trying to push them towards their clients. Some stayed too close to the client, either holding their hand or leaning on their wheel-chairs, thus blocking their ability to engage with the donkey. Grace and I discussed this at length and we concluded that without clear guidance of 'how to be' in these sessions, they were just trying to find their role and were equally drawn to the donkeys. We thought a guidance

document for humans would be a good idea for the forthcoming sessions I had planned in the UK, so I set about writing it that night on my flight home.

Just as I was leaving the centre on the last day, I noticed a group of donkeys who were weaving through an area of trees. Some were strolling slowly, others nibbling at forage. Although donkeys originated in the African deserts and other arid habitats, there was something ancient and wonderful about watching



*Photograph 9: Strolling with the herd*

the donkeys through the early evening mist of the woodland. The groom walking with them was barely noticeable because of his incredible ability to blend with the herd in such a way as to reveal how equids accept humans who demonstrate innate ability to understand and be understood by them. I have seen horse trainers showcase their apparent leadership by riding and jumping objects at liberty with no visible equipment, because their previous training had 'taught' their equid students what their human leader wanted. Some trainers used a stick as an extension of their arm (Parelli 2016 online 'university') and although they did not inflict pain, Ingold (2000:307) refers to such training equipment as 'instruments of coercion' because the human 'master' has coerced the equids to do what s/he wanted. Later, the equids carry out the request without the need of a stick because of the previous coercion training;

but this man, in a semi-felled forest in Italy, was strolling with the herd as an equal. They did not need him to lead them back to their paddock for the night; he had never trained them to follow him, they knew the way and he strolled along with them. This summed up my experience of the Italian centre.

## **Beautiful Bonding**

It shouldn't have been such a surprise that Sam and Simon's acquiescent relationship would become so moving to onlookers. Sam, only four years old, had been diagnosed with autism for over a year, although his mum had suspected as much since he was one year old. He was part of a large family with both older and younger siblings who lived in a home that was shared with numerous cats and a dog. Since he was very young he had shown no behavioural differences when interacting with familiar humans or other animals. Sam's mother had seen the advert requesting participants for a study on the relationship between autistic children and donkeys and carefully considered if she and Sam had the time to set aside for a four-week period. After visiting a local petting zoo where Sam groomed the ponies and enjoyed himself despite the crowds that normally unsettled him, she decided that it would offer an interesting opportunity. Sam's parents somehow managed to make time for all of their children individually whilst balancing the needs of a large and active family. The project offered an opportunity for Sam and his mum to spend some time together learning more about his character and behaviour in a novel situation. Sam's family completely accepted him for who he was and were not looking for a cure. They appreciated that he perceived the world differently to



their other children and because his communication method was not verbal, they welcomed experiences that would help them understand their son better.

Sam was a tactile child who enjoyed firm cuddles from familiar people and frequently instigated physical play with the dog member of his family who collected him from school each day alongside Sam's mum. Sam's dog was used to his 'stimming' behaviour: flapping hands and verbal pattern sounds. He joined the family as a young puppy and was not put off by Sam's unusual behaviours. He was also used to being closely inspected by Sam's little fingers because Sam had an eye for details. This intense concentration ability enabled Sam to notice tiny insects and be fascinated by their comings and goings in the family garden.

Simon's early life saw him working as a beach donkey. He carried children up and down beaches for nine years under the ownership of a licenced beach donkey operator. Simon had been inspected by vets annually to ensure that he was fit and well enough to undertake the work that his operator required of him. One year prior to meeting Sam, his operator had retired and Simon, along with some of his work colleagues, found themselves at Apple Orchard, one of the Donkey Sanctuary centres.

In a strange environment Simon was comforted by a close friend who was part of his former beach donkey life. Together they received treatment for lice and a fungal hoof condition called 'seedy toe' that gave him sore feet when dirt and stones got stuck in his hoof. Simon was described by the beach donkey operator as having 'a sweet nature with people... and is good to load.' Simon was not aware of what his operator had thought of him; he was unaware that walking calmly up a ramp to a transport lorry earned him a 'good to load' label.

When he first arrived at Apple Orchard he decided that grooms appearing with head collars was not a good thing and showed his preference by running away in order to stay in the field with his companions. Once he became familiar with one or two key grooms and began to get used to spending more regular time with his companions, he felt safer and began to enjoy the attention of the staff. He was visited by vets, farriers, dentists and a range of professionals who made sure that he was comfortable and healthy. One particular groom spent a great deal of time with Simon and taught him to enjoy being groomed by humans. After a few months he began to approach the gate quickly when spotting his groom. He started to physically relax while being groomed and his breathing slowed and he often dozed. Life had improved for him significantly. He had much more time to roll in the dirt, scratch against specially designed donkey scratch posts and free time fooling around with his companions. He enjoyed a new game of 'welly wars' whereby he held one end of a rubber boot with his teeth and his companion held the other. The game could last for minutes at a time, only to be started again after another companion discovered a new 'welly' strategically left by staff in the field or barn.

Once Simon became used to life at Apple Orchard he began entering into a donkey-box vehicle on his own. Being 'good to load', he showed no fear of the vehicle. When he arrived at his destination, he walked out of the vehicle and began to interact with older humans in their care homes and wasn't upset by their touches as long as his familiar grooms were close by.

Simon was accustomed to wearing a bridle with a metal bit in his mouth from his old life at the beach and had carried children on his back for several years. Apple Orchard hosted groups of children from special schools who would visit weekly to ride the donkeys. These sessions lasted around fifteen minutes and

involved the child mounting Simon from a high block. There were usually two or three adults surrounding the child that Simon carried and another adult in the centre of the arena directing activities. He became habituated to children turning and moving around on his back to take part in the activities set out by the adult running the session. He was ridden most weekdays for a few sessions and occasionally during a Saturday club. Sometimes he was not ridden and instead did 'ground-work' in a pen with a groom and a child brushing him. The notes from when Simon first began riding at Apple Orchard indicated that he was 'a little bridle shy.' He was resistant to having the bridle put on prior to the sessions. One of his grooms felt that he had acquired this habit because of his past experiences and perhaps rough handling at the beach. Another groom felt that the bridle and bit was like 'putting on your work uniform and some people like their work and some don't.' From my experience, I felt that he was protesting more generally against being confined by the bridle and bit because he associated them with carrying fidgety children and being manoeuvred around by his head. When being ridden Simon's tail was tight towards his back legs but he conformed, following along with the other donkeys being ridden. Observations of Simon in the barn or in the field with his companions showed his curious and playful side. Like Sam he seemed to notice details and spent time exploring with all of his senses and with all of his body. He could be quite rough with his field companions at times and regularly play-fought and reared up onto his hind legs in synchrony with another donkey.

Simon's groom nominated him for the four-week research because he 'proved to be quiet and reliable when doing the ground-work with the children.'

On the day of the first session the sun was high in the sky and the temperature was 25°C. The pen was set up on short grass around 100 m from the donkey

barn where Simon and his companions were watching proceedings. They all had access to straw because too much grass to eat on very sunny days can make donkeys ill. The donkeys' grass access was restricted to small amounts during the summer. A bucket of drinking water was brought into the pen and sheep hurdles demarcated the pen boundaries.

Chairs and tables were set up 6-12 m from the outside of the pen, for the parents and grooms to quietly observe. The video camera was positioned under one end of a gazebo that covered half of the pen.

Sam had sat in the car with his mum while she dropped his younger sibling to their grandparents' for the afternoon. Dad and the rest of the family had gone out earlier and Sam was quite comfortable with his mum in the car. He carried his comfort blanket and often gently rubbed it down his face. When his mum pulled up outside Apple Orchard he sat very still while she walked around the car to retrieve him from his car seat. He insisted that she carried him, a common request in strange places and he clung onto her neck tightly. Mum was greeted by a staff member who led her straight around the building to the pen outside as planned.

Simon had been intently watching the comings and goings on the field. The grass area was not usually grazed by donkeys but they had walked over it several times carrying children on their way around an outside ride area. When his groom appeared at the barn with his head collar and looked his way, he complied as usual and followed her steps out to the field. He paused a few times because it wasn't the usual route but the green grass acted as a distraction and he chanced a few lush mouthfuls on his way to the pen.

Simon noticed the child clinging tightly to his mother's neck and briefly stared in their direction before following the groom into the pen. He immediately became quite engrossed with the grass in the pen, snatching huge mouthfuls and keeping his head down. Donkeys' eyes are positioned in such a way that they can look around whilst eating. His groom later explained that they use both eyes for a range of approximately 65° ahead of them and individual eyes around 285° either side and behind them. Thus, apart from a small blind spot directly behind them, they do not need to move their head around to see behind them. Simon ate for around two minutes but then his interest again returned to Sam still clinging onto his mum. Sam's mum walked towards the pen and leaned over to touch his back. Simon's groom thought that he looked a little unsure because he was waiting for a bridle to be put on. Instead the groom leaned in and took off his head collar, leaving him free to roam the pen at will. Becoming less interested in the child and finding his freedom, he milled around the pen for a further minute, alternating one ear on Sam and one on his groom. Noticing the camera he raised his head to get a clearer look and a sniff and then resumed eating. Sam's mum entered the pen with Sam in her arms. Simon tolerated Sam's mum stroking his head and became quite interested in sniffing Sam's shoes. It was at this point observers agreed that the relationship began. Sam leaned out from his mother and touched Simon's shoulder laughing. Mum instinctively placed him on the ground and gently retreated, leaving them both in the pen together. Sam and Simon watched his mother leave the pen and for a moment stood motionless. Sam's mother attempted to push things along by leaning over the hurdles and placing Sam's blanket in his hand. She demonstrated rubbing the blanket onto Simon's back and his body tensed. Sam dropped the blanket and began pacing around the pen touching each hurdle in

a rhythmic manner. He was verbalising in a sing song way and occasionally flapping his hands and arms. Simon watched him from a static position but moved to accommodate Sam who pushed between his rump and a hurdle. Sam suddenly stopped and walked straight towards a slightly startled Simon. He bent his knees to gaze into Simon's eyes who in turn had both ears fixed forwards on the child. Sam began giggling quietly then lent his forehead in to touch Simon's.



*Photograph 10: Head to Head*

They stayed connected by their heads for a few seconds but during that time there was little sound from elsewhere. Then abruptly Sam walked to the exit. He tolerated holding the hand of the researcher and accompanied her with Simon who had received his head collar calmly. They returned to the barn and Simon re-joined his companions. Sam's mum was very moved by the interaction and also that he had been willing to walk with a complete stranger to take Simon back to the

barn. She commented that Sam had instinctively known that to communicate with Simon he needed to look into the donkey's eyes.

Sam was given a photograph of Simon to take home and he carried it along with his blanket back to the car.

After the first session Simon was tired. He rolled as he entered the barn and found a cool spot on some straw and promptly laid down to sleep. Usually Simon and his companions slept standing up in the barn during the day but he preferred to sleep prone after that and subsequent sessions. His observer didn't

notice any adverse stress signals just that he was noticeably more tired than before the 15 minute session.

Several times during the week his mother reported seeing Sam sniffing the blanket where it had been rubbed on Simon. The photograph was on their refrigerator and Sam pointed to it and giggled often. On the day of the second session, mum took the photograph down from the fridge and handed it to Sam. She said that he walked to the car looking at the photograph and sniffing his blanket. She was sure that he knew where he was going.

Simon had been ridden much less during the week between the first and second sessions. Apple Orchard was reducing riding and concentrating much more on ground-based activities. Some of the grooms were sceptical about how long the children would remain interested if they didn't ride but had been pleasantly surprised at how well it was going. When Sam's mum pulled up in the car park, Simon was stood close to the gate. He had watched the pen being set up on the grass and was more than happy to leave the barn to accompany his groom to the pen.

The session started quickly. Sam had brought a toy elephant and rubbed it on Simon who stood still with his ears pointing towards Sam's face. The dyad stood still for five seconds and then Sam resumed his pacing of the pen singing to himself and touching each sheep hurdle in turn. The adult in the centre of the pen brought some carrots out into the pen and encouraged Sam to feed Simon from his hand. Sam giggled and sniffed his hands each time Simon took one. After the final carrot was given Sam continued to place his hand under Simon's muzzle. Mistaking his hand for another carrot, Simon took Sam's fingers into his mouth. He noticed straight away that it wasn't a carrot and let go. Sam was

shocked and cried a little. He looked towards his mother who reassured him from outside the pen. After a tense few seconds Sam bent his knees and looked Simon in his eyes. He once more placed his forehead on Simon's and both stood like that for five seconds. The second week continued with several intimate moments and gentle touching instances. Sam continued to pace the pen from time to time singing to himself and Simon grazed the grass keeping one or both ears tracking Sam. Mum wrote on her immediate thoughts sheet that she 'can't wait for next week.'

On the third week Simon was a little reluctant to leave the barn. His observer had noticed that he was showing some stress signs and inquired if anything had changed. His groom explained that Simon had been kept in the barn with his companion over-night because they were concerned about his companion's health and donkeys are always kept with friends if they are confined. Simon was brought out earlier than usual so that he could have some more time grazing before Sam arrived. Sam and Simon fell into synchrony several times during the session. Sam liked the feel of Simon's face on his own and instigated it several times. Simon followed Sam when he began pacing but willingly moved to accommodate his desire to pass between the donkey and the hurdle. By now Sam was aware that the photograph was of Simon and when his mum took it off the fridge at home he became excited. Simon appeared to know the sound of Sam's mum's car because he was often at the gate when Sam arrived. He grazed a lot during the sessions but also showed curious and enquiring behaviours towards his new friend. The session lasted longer than usual because there was such a calmness around them both. The warm spell was continuing and the pair alternated their time between the gazebo and the rest of



the pen. Sam and Simon walked shoulder to shoulder back to the barn after the session and I kept a slight distance so as not to interfere with their relationship.

Mum reported that Sam's confidence was at an all-time high in week four. She had been discussing his behaviour with the rest of the family and they were all quite amazed at how he was able to instinctively adjust his behaviour to suit Simon. He was much more fluid around him and apart from a few occasions didn't do anything to startle him which was in contrast to how he was with his siblings at home. None of the family could explain how he knew how to act in a suitable way around donkeys. He was grinding his teeth in excitement in the car and walked unaided by his mum towards the pen when he arrived at Apple



*Photograph 11: Entangled*

Orchard on the final week. Simon was equally keen to get to the pen with Sam and the lush grass. During the first part of the session both Sam

and Simon were quietly leaning against each other and not moving much. Sam became interested at looking and touching Simon's fur. He moved his whole body around Simon stopping at his head to touch foreheads again. Sam slowly manoeuvred himself under his friend's neck and Simon lifted his head to accommodate Sam's movement, albeit looking slightly concerned. The weather had cooled off but it was still warm. The other donkeys brayed loudly on a number of occasions and both Sam and Simon became distracted by their calls. Sam paced around the pen as usual and returned to stop at Simon's side.

Without any warning Sam ducked under Simon's belly and attempted to pass underneath the donkey. Simon, quite startled, lifted his legs very high so as not to step on Sam. This resulted in Sam being slightly knocked. The adult in the centre panicked and grabbed Sam to pull him away from what she thought could be a dangerous situation. Sam cried at the sudden human movement and sat on the floor with his arms folded and his eyes closed. Simon remained still and very tense. His eyes were triangular showing stress and he defecated. He was reassured by his groom whilst she collected his droppings and gently groomed him. Meanwhile Sam's mum checked him over in the pen but retreated outside when she saw that he was more upset by the human interference than the slight knock. Sam sat on the floor for a full five minutes and Simon resumed eating grass with an ear directed towards Sam. He slowly moved towards Sam, grazing until his nose touched Sam's leg. After a small giggle Sam got up and lent his forehead onto his friend's head. None of the observers wanted to end what was to be the last session because of the closeness of the dyad. Eventually the session came to the usual end and Sam walked with Simon back to the barn. Again Simon slept lying down in a comfortable spot in the barn.

Sam started primary school the month after the study. His school visited Apple Orchard and Sam was brought along so that he could continue to see Simon. The weather had turned to rain so the interactions were inside in a pen and the couple continued to relax with each other. Some of Sam's class were still riding on occasion and it was decided that he could try this too. Grooms felt uneasy about this change in dynamic but the sessions were pre-planned and went ahead. Sam mounted Simon and other donkeys without protest but, he seemed to ride without noticing the donkey underneath him. The bond he had developed

with Simon came from the intimacy of face-to-face contact and riding broke that spell for Sam.

Simon is no longer ridden because practice has dramatically shifted towards mutually beneficial encounters at the Donkey Sanctuary. Simon is still curious in ground encounters with other children but his grooms felt that the special time he had with Sam outside on the grass sealed their friendship. Sam's family were not surprised that he bonded with Simon because he behaves the same way with humans and other animals but his mum felt privileged to see her son portraying his sensitive, warm persona. She was proud that Sam had been able to repudiate stereotypes of autism by showing how capable of feelings and emotions he was from his interactions with Simon. She learnt to leave Sam and his dog to form their own relationship and no longer encouraged Sam to throw the ball for the dog or stroke him. The rest of the family also learnt that Sam was incredibly sensitive but expressed himself in his own special way. They had never doubted his capacity for love but were unsure of how he expressed it. Short moments of touch from Sam became cherished alongside his usual giggling and singing. Mum realised that his processing time was much longer than she had thought and instead of picking him up when he refused to walk she gave him more time to assess his surroundings.

Simon's groom learnt from watching him in the pen and afterwards. She had not appreciated how tiring sessions were for the donkeys and was pleased that Simon's observer had raised the issue with the management team. In turn the donkey's time working was reduced significantly and grooms were encouraged to monitor their donkeys straight after sessions as well as during. Simon was still considered a sweet donkey as his beach operator had indicated but he was also given much more respect by his groom for understanding the fragility of

Sam. By not stepping on Sam during the panic when Sam passed underneath him, he showed himself to be careful and thoughtful. She endeavoured to trust his nature much more than she had previously.

Both Sam and Simon see each other during Saturday sessions at Apple Orchard from time to time. Sam spends time in a pen with Simon and they just hang out in their own way. Some staff expressed confusion when seeing them together for the first time because they expected to see so much more following the accounts of their colleagues from the project. Sam and Simon are an example of an interspecies beautiful bonding that is relaxed and comfortable but not often fathomable or even visible to onlookers. They demonstrate clearly how



*Photograph 12: Beautiful friendship*

members of different species can coexist in each other's company with instinctive understanding of the other's intentions. It is often proposed that humans are somehow higher than other animals because we have the ability for verbal language. Sam and Simon's observers agreed that this notion of humans being higher than other animals was flawed. Verbal language could also be disabling at

times because it overtook the enigma of whole body communication. Sam and Simon had a friendship based on their own embodied understanding of each other alongside their motivation and curiosity to discover each other for themselves.

## **Lean on me**

Ty was an exceptionally passive child. Unlike his older brother he was very accepting of most things and went along with his mother's requests. Until he was 18 months old his mother had no idea that he would become diagnosed with autism. He met all of his developmental milestones on time and began using a few verbal key phrases. She could not remember a specific event or episode but became aware that he changed in character prior to his second birthday. Her doctor recommended an autism assessment and he had a formal diagnosis by his third birthday.

Ty's older brother enjoyed football outside at the park but Ty was unable to tolerate crowds or loud noises. His mother became more and more isolated so decided to purchase a dog because she had read that they help children like him. The dog didn't help. Dog walks took place early in the morning or later in the evening because Ty could not stand being around lots of people. Mum took them both to the park before he attended nursery school so that both Ty and the dog could have some time running around time without other families present.

Ty largely ignored his dog but wasn't averse to him either. Ty was quiet and affable at home but his mum wanted him to be able to show his wants or needs and not just accept everything that she suggested. When she saw the advert for the research project she decided that it may help to enable him to have choices or even a hobby, although she did not expect a cure.

Tobias as 18, quite a senior donkey for Apple Orchard and a long- standing resident for over nine years. Unusually he was not bonded with any other

particular donkey but enjoyed rough and tumble with lots of donkeys as well as allogrooming; social grooming between members of the same species.

From his birth to three years old he was kept with horses and not donkeys. He was relinquished to the Donkey Sanctuary because he was said to be aggressive towards humans and was potentially a 'rig.' His groom explained the term 'rig' as a horse or donkey whose castration was not successful, leaving them with stallion tendencies. On arrival in Apple Orchard he was treated for quite a serious case of seedy toe with an abscess and scars from previous foot infections. The vet examined him and confirmed that he was not a 'rig' at all and that his feistiness came from being so very uncomfortable. He was transitioned into the herd at Apple Orchard and left to settle in for a long time without working with children. He became accustomed to his grooms and his trust gradually grew until he was happy to present his feet for picking out daily. His formative years without any donkey companions seemed to have an effect on his relationship with his companions because if the herd moved a distance from him in the barn or on the field, he was not overly concerned. Normally, equids prefer the company of others and don't opt to stay alone. The Donkey Sanctuary are very cautious about placing donkeys who have been previously labelled as aggressive with children without thorough investigation of the circumstances of that label. They had not seen any signs of aggression and although he settled in well over the first two years at Apple Orchard it was felt that he may enjoy a foster home with people and other donkeys who could continue to build his trust. He stayed in the foster home for five years and during that time became accustomed and very safe with children who were introduced to him very slowly. Sadly his foster humans became ill and he was once more relinquished back to Apple Orchard. By then, Tobias was gregarious and sought

out human company. He was selected for interactions with children and passed all assessments to ensure that he was suitable. At the start of the project he had been carrying children on his back and interacting in ground work for nine years. His groom chose him for the project because he was a 'very lovable and affectionate donkey and appeared to enjoy his job.'

The first week of the project brought high temperatures and by late afternoon, flies and other insects were thick in the air. Tobias had been snoozing in the barn for most of the day. When his observer arrived to record his behaviour he didn't move at all. He had seen Simon return from his out-of-the-ordinary visit to a pen on the grass, but unlike the other donkeys, had not greeted him by sniffing his nose. His first instinct once being led out of the barn by his groom was to grab as many mouthfuls of grass as he could. He hadn't noticed the child being held by his mother or the humans sat around the pen. When he was released of his head collar in the pen he looked a little confused and his groom joked that he couldn't believe his luck to have a pen full of grass all to himself.

Ty entered the pen with the adult who stayed in the pen during encounters. He didn't seem phased leaving his mother at all and stared at Tobias whilst smiling. Tobias moved towards him and lowered his head to be able to see him properly. Tobias was completely focused on the child and ignored the adult who was still standing close by. Ty became distracted by Simon who was loudly braying in the barn and the child walked to the edge of the pen to see where the noise came from. Ty walked slowly around the pen investigating the sheep hurdles with his mouth whilst covering his ears with his hands. Tobias did not graze but followed Ty's movements with his whole body but kept a discrete distance. Occasionally Ty would come back to Tobias and the adult would encourage him to touch Tobias. Ty touched Tobias all over his back but

seemed to be more interested in his belly. Without any warning Ty ran under Tobias's belly and out the other side, laughing. Tobias, a little startled, moved away slightly and started grazing but kept one ear on Ty. After the incident, the adult in the pen remained close to Tobias, as she was concerned that Ty may try to repeat running under his belly. Her presence seemed to put Ty off from approaching. Instead he noticed the water bucket and began flicking water out of it with his hands. He became quite wet but did not seem to mind. Ty covered his ears quite a lot during the session which was a common form of stimming behaviour for him. He did not look particularly uneasy when he covered his ears but seemed to want to shut out noises. Mum felt quite worried that Ty was not interacting enough with Tobias so started suggesting that he 'pat Tobias.' Ty responded by repeating the name Tobias over and over. Tobias watched Ty moving around the pen and became slightly rigid. He appeared to be trying to understand this strange, out-of-the-ordinary environment complete with a child moving around the pen. At one point Ty tried to push past him and Tobias chanced a sniff at his head. Ty rubbed the donkey's head with his hands and said 'bye Tobias.' He moved to the exit and faced outwards. Ty left the pen and Tobias received his head collar. Ty was happy to take Tobias back to the barn but held onto his mother's hand whilst doing so. Tobias slept standing up in the barn almost immediately.

The second week brought with it more heat and flies. Prior to the session Tobias had been stamping his foot and swishing his tail to dislodge the flies in the barn. When Ty arrived running ahead of his mother to get to the pen, Tobias watched with an inquisitive stare. He happily followed his groom to the pen and on entrance immediately sniffed Ty who said 'Tobias.' Week two was much more active than the previous session, with Ty initiating interactions by



excessively touching and sniffing Tobias. For his part, Tobias initially stayed still with a relaxed body, tolerating and even seeming to enjoy the touch. Later he simply grazed the grass, allowing Ty to touch him. Ty was uncomfortable with the proximity of the adult so began moving around the pen covering his ears. The pen had been moved to a new spot for this session because the grass had been cut on the previous area and donkeys can become ill if they eat newly cut grass. The new pen had a drain cover to one side and Ty found it irresistible. He stood on it, jumped on it, and then put his ear to the metal to listen to the sounds it made. Tobias approached Ty on several occasions, sniffing the child's head and lowering his own head to see him better.

When Ty eventually left the drain cover he stood next to Tobias and lent against him, facing away. Tobias and Ty spent several minutes relaxing next to



*Photograph 13: Lean on me*

each other.

Tobias grazed and Ty just stared into space. Mum had raised her concerns about

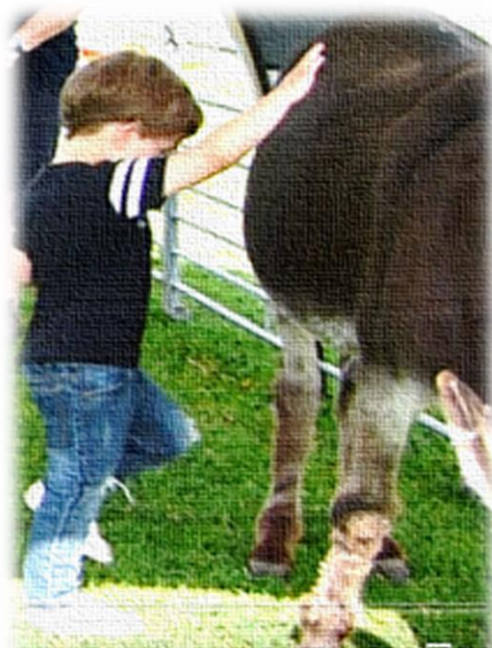
Ty being inactive and didn't want to ruin the project. She was reassured that it was usual for donkeys to be leaned on by children and staying still for such long periods. The observers were in awe of the situation. She later emailed me to say that she felt a 'weight lift from her mind' after the conversation and started to 'feel proud of her good-natured son.'

Towards the end of the session Tobias was being irritated by flies. He was tossing his head towards his belly to rid himself of them and started stamping

his hind leg. Ty watched from a distance and then approached Tobias to look under his belly. Being mindful of the first week's session when Ty had disappeared under Tobias's belly, the adult stayed close by. Ty placed his hand on the top of Tobias's hind leg and when he stamped his leg to remove flies, Ty copied him. Initially it looked like a coincidence because Ty's moves were subtle. Over the course of two minutes Ty stamped his foot every time Tobias did.



*Photograph 14: Topaz stamp*



*Photograph 15: Ty Stamp*

The third week was very slow to start. Ty had been ill and was only just about recovered. He clung to his mother and when he entered the pen he said 'bye Tobias.'

Tobias grazed a lot but followed Ty around the pen, sometimes 'sham grazing', moving his mouth on the ground but not actually eating. Ty began singing to himself and watched Tobias out of the corner of his eye. When Tobias ate, Ty began picking the grass with his fingers and laughing. Tobias stomped his foot

and Ty copied. Towards the end of the session both partners were relaxed once more and leaning against each other. Ty didn't stand near the exit and had not repeated 'bye Tobias' again. The time rolled on and the participants were left to relax with each other. Ty sat on the floor quietly and Tobias grazed all around him in a circle with one ear on him and soft eyes watching him. After 30 minutes Ty walked with Tobias back to the barn without his mother. He suddenly seemed to realise that he had forgotten something when Tobias returned to the barn so promptly ran back to find his mother. Tobias was exceptionally tired and lay down to sleep away from the other donkeys. Like Simon he showed no signs of stress or tension but just needed to rest. He had a full belly of grass and filled himself up with water before leaving the pen, so he slept soundly.

Ty's mum reported that Ty also slept all the way home in the car. He was completely relaxed and held onto Tobias's photograph that she kept in the car.

Week four was warm but it had started to rain just before the session. Mum was sure that he knew where they were headed in the car and noticed Ty saying 'Tobias' when looking at his picture when he was in his car seat. On arrival Ty became subdued and didn't want to go in the pen. Tobias was busy eating but stopped when Ty appeared. Ty spent ten minutes outside the pen in his mum's arms. Tobias ate very close to them from his side of the pen, sometimes looking up at Ty. It started raining, which seemed to prompt the child to go into the pen under the gazebo. They stood looking at each other for some time and then Ty walked towards Tobias, laughing. He kept touching and sniffing his head and when Tobias followed him he ran his hand over Tobias's back, exploring his wet fingers. The raindrops on the sheep hurdles became illuminated by the sun and this caught Ty's attention for a while. Tobias stayed close to him and when Ty turned to look at him and stamped his foot, Tobias seemed confused. Children

generally didn't stamp their feet next to him. Ty had initiated foot stamping without any prompts from Tobias. The donkey took a step back and looked at the adult in the pen. Ty giggled and stamped his foot again. Tobias tensed and his ears flattened slightly. The adult reassured Tobias and he followed her away from Ty. A few minutes later Ty walked to the exit and said 'bye Tobias' and let himself out of the pen. Tobias watched him leave with his head up, both ears focused on Ty. The rain had stopped and the sun was shining again. The donkeys in the barn began braying loudly and Ty covered his ears. When Tobias was led out by his groom Ty wanted to follow but took his mother's hand to accompany them.

Tobias slept recumbent after the final session and Ty slept all of the way home. Ty's school visited the donkey sanctuary and he was encouraged to spend time with Tobias in the pen. Ty preferred to ride the donkeys and was quite animated and fidgety during ground work after he had started riding. Tobias's riding days finished shortly after the project sessions ended but he remained curious and gentle in ground work with children.

Ty's mother felt that he was much happier with Tobias and certainly not indifferent like he was with the family dog. Although he interacted and engaged with Tobias, his attention wandered like it did with most other persons, human or otherwise. She would have liked him to have been more animated in the sessions but accepted that his character was more calm and introverted. She was pleased that he was able to walk with strange adults without her and was able to be still for long periods of time with Tobias. The biggest shock for her was that he was able to mimic the donkey and also remembered the donkey's

behaviour from the previous week. She had been told by his psychologist that he was not at the level of copying and yet there he was doing just that!

Tobias' groom learnt just how aware of the child's behaviour he was and what effect this had on him during the sessions. He approached Ty but he was confused by the child's behaviour at times and sought assurance from an adult who was easier to read. Tobias had built up a set of expectations from his working sessions and that included fairly predictable behaviour from children. His time with Ty was not so much stressful as confusing at times, although he relaxed fully when Ty just leaned against him daydreaming. Leaning on each other calmly showed where mutual understanding led to a relaxed interaction. Tobias's groom realised that he was less gregarious than she thought because she had built up that image of him by watching him following the same routine that he was accustomed to. Introducing the outside grassed pen exposed a more sensitive, inquisitive side and she made a note to better prepare him for any change in routine as the Donkey Sanctuary moved forwards.

### **Cause and Effect**

Ora was the first child of the family and although her parents doted on her, her behaviour was not what they were expecting. Even as a young baby she did not enjoy being held and would go rigid on close contact. As she became a toddler, her parents noticed that she avoided eye contact with them and would cover her ears to block out noises that she didn't like. When she was two years old they had another baby and she was very different to her older sister. Ora was late with toilet training and continues to need support dressing at nine years old. She liked routine and would systematically stack toys and objects in a particular

order day after day. Ora's parents had a struggle to be taken seriously when they decided to seek professional assistance. She was nearly four years old by the time she was given a diagnosis of autism and had begun to attend a mainstream primary school. Her parents appreciated the school's efforts to include her into the class with non-autistic peers, but they were dismayed at accounts of her refusing to go into the classroom, refusing to leave the classroom and howling through assembly sessions. By the time she was eight they had gained significant support to have her on a waiting list for a special school place. Ora's mother saw the advert for the research and was curious to see if she would enjoy being with donkeys, because she liked being outside. She thought that the outside freed her from repetitive behaviours and a need for order in her environment. Her father took her walking for miles on the moors and she seemed to notice small details about the countryside. When they passed a neighbour's dog in the garden, Ora would crouch down to see him. They didn't want a dog at home because they felt that they did not have the time to give to a dog and were not sure how Ora would react to a dog in the house. Her parents hoped that her communication would improve because she didn't instigate it unless it was to get something from them, nor did she use verbal speech apart from copying odd phrases at random times. Ora was described as highly echolalic: she repeated words but showed no real understanding of them. Her parents had read about vocal and motor repetitive behaviours, often called stereotypies, and could cite several examples of Ora demonstrating such 'typically autistic' behaviour.

The family felt that Ora could be controlling by her 'obsessive compulsive' need for routine but she was also very passive at times and they wanted to 'see her

happy or getting enjoyment.’ They were hoping that the interaction sessions would offer her ‘a calm space.’

The family had recently been informed by a psychologist that their daughter had failed to really grasp the developmental milestone of ‘cause and effect,’ indicating that she was not aware that something she instigated led to a specific response. This could be a simple thing like pressing a button on a toy to make a light flash or behaviours that show more complex understanding such as intentionally leaving a plug in the sink and opening a tap to cause water to pour over the sides. They felt dismayed at all of the testing she had received that showed what she hadn’t achieved in comparison to non-autistic children and felt that the research project was ‘refreshingly without expectations or comparisons.’

Otis was bequeathed to the Donkey Sanctuary via a voluntary rescue situation when he was three years old. He was afraid of having his rear feet picked up but quickly settled and did not show too much stress towards his foot trimmer or the grooms who cared for his feet. He became used to visits from a vet who treated him for a benign skin tumour known as a sarcoid. Otis settled very quickly into Apple Orchard because of a firm friendship that he had with Onion who he arrived with. The pair maintained a constant friendship throughout the seven years that they have lived there.

As a very young playful pair they could be seen having fun together when they arrived and still constantly amuse the public when they play tug-of-war with a wellie or a rope in the yard. Otis was described by his groom as a ‘very calm, sociable, friendly donkey.’

After he had settled in at Apple Orchard he began attending an outreach project at an older people's residence. Once he got used to being away from Onion for short amounts of time, he began to enjoy himself on his trips out. The residence had a grass garden that Otis munched on before entering the building. The groom usually waited for him to defecate before she took him inside to avoid him damaging their carpet. Often residents would get impatient waiting and come out to see him. He found them interesting to smell and look at providing he was able to continue munching in between being patted or stoked. One particular resident who had been diagnosed with dementia giggled and sang to herself when she saw Otis. Staff thought it was because she had fond memories of her family holidays by the seaside when donkeys were a common sight on beaches in the UK. The lady's daughter had a very old black and white photograph of her mother with a beach donkey as a child and asked for her to be photographed with Otis. The photograph sat on the lady's dressing table in a frame.

When Otis returned to Apple Orchard after his outreach work he would sniff Onion's nose and they would groom the ridge between each other's shoulders, known as the withers, as a reassuring greeting.

Like the rest of the donkeys, Otis carried children who were from special schools on his back during the week and sometimes stayed in a pen for children to experience ground-work with him. When he carried children he was not particularly tense but found it hard to concentrate if Onion was out of touching or sniffing reach. He was always gentle with the children and was habituated to strange noises and movements coming from the children sat on the saddle that he carried.



Otis's groom felt that he had the right personality for the ground work and so thought he would enjoy the research project.



*Photograph 16: Ear on you*

The first session was a hot day with a cloud of flies buzzing around the sanctuary. Otis was playing in the barn with several donkeys when Ora

arrived and he didn't notice the child walking happily with the staff member to the pen. Nor had he paid much attention to Tobias coming back into the barn and promptly falling asleep. Ora stood outside the pen, repeating her chosen phrase over and over and laughing. When Otis was led towards the pen, Ora got louder and ran from her mother to the pen. She followed Otis into the pen without encouragement.

Otis immediately began eating grass with one ear directed towards Ora. The other donkeys began braying very loudly and both participants in the pen looked over to see who was making the cacophony. Otis brayed back towards the barn but nonchalantly began eating once more. Ora watched him for a moment and then approached his right side touching his fur and vocalising quietly. She began to brush off the bits of straw that had become embedded in Otis's fur with a muslin cloth. Otis grazed but lifted his head several times to look at the child and the cloth on his back. His ears and eyes were relaxed and he seemed to be mildly curious about this strange new experience. Ora also relaxed and pushed the cloth over Otis's back towards his rump. She began jumping excitedly on

the spot, causing Otis to move his rump around so that he was looking up at Ora whilst grazing.

A member of the sanctuary staff walked around the building towards the pen and had not realised that the area was being used for the project. She was



*Photograph 17: Panniculus*

frantically trying to get a mobile phone signal whilst comically talking loudly down her phone. Other than her voice, the whole area was quiet, which seemed to amplify her unwitting interruption. Ora and Otis stood shoulder to shoulder watching her and when she shrieked

in surprise and moved away, apologising profusely, they stayed in the same position for a full minute. Otis broke the spell by grazing once more and Ora followed him, trying to touch his back again. At one point she realised that when she cupped her hands and touched a particular spot on Otis's back gently with all five fingers, he shuddered. This shudder, known as the panniculus reflex, was explained by a groom as something equids do to remove flies. It is an instinctive response but was probably heightened because there were so many flies around that day. Ora kept trying to instigate a panniculus reflex and became frustrated when Otis didn't shudder. Instead she moved towards his rump and brushed his tail with her hands. Otis stamped his foot and flattened

his ears, indicating his displeasure at the intrusion to his rear end. He began to look a little stressed and stopped grazing. The session ended with Otis walking with the groom towards the barn and Ora following behind, holding my hand.

Ora was very excited to watch Otis move into the barn and became louder. She rubbed her chin, indicating that she was upset, so her mother took her home. Otis found Onion and the two greeted each other excitedly. Twenty minutes after returning to the barn, Otis snoozed standing up.

Ora's mum said that she sniffed the muslin cloth when she gave it to her on the morning of the second session. She was not particularly interested in Otis's picture and left it on the kitchen table. When her mother parked at Apple Orchard, Ora began repeating her favourite phrase whilst laughing. Otis watched Ora walk past the barn and then watched the groom come in with a head collar, all the while following with his head up and both eyes and ears on proceedings. He hesitated slightly but then accepted the head collar and followed the groom towards the pen.

Ora immediately cupped her hands and placed her fingers on Otis's neck to try and gain a panniculus reflex. Otis moved away with his ears slightly flattened and snorted. The adult in the pen gently took Ora's hand and tried to encourage her to stroke Otis and not poke him. Ora started brushing the bits of straw and dust of the back of Otis's fur. He had been rolling quite a lot that day to remove flies and had a good scratch, so appeared to appreciate the impromptu grooming session from the child. For at least five minutes Ora groomed Otis, who relaxed and half closed his eyes. His head was low and he was breathing slowly. Ora repeated her favourite phrase very quietly, which seemed to have a hypnotic effect on herself, Otis and the observers.

Just as the dyad began to show synchrony in their breathing, Ora seemed to wake up with a start and placed her fingers on Otis. To his credit he tolerated the rapid transition from relaxation to irritation. He nudged Ora with his mouth and she moved around him, jumping and singing. When the groom came to fetch Otis at the end of the session, Ora joined them unprompted and walked with them to the barn. She watched Otis roll on the straw and became distracted by the other donkeys who had come over to see her at the barn entrance. Otis slept prone after 20 minutes. Ora walked to the car looking back over her shoulder at her mother.

Ora's mother was very excited to see her clearly demonstrating an understanding that by cupping her hands and lightly touching Otis's back with her fingers, he shudders. She wrote in her immediate thoughts record that she wanted to send a copy of the video to the psychologist who had said that Ora didn't understand cause and effect.

The third session was very similar to the second. Ora was keen to investigate Otis's fur and attempt to cause the donkey to shudder once more. The adult in the pen was concerned that Otis was becoming fed up of Ora's overt touching so attempted to divert her several times during the session. This had the effect of confusing Otis, who wasn't sure what he should be doing. He flitted from grazing to seeking reassurance from the adult. On several occasions the adult inadvertently blocked Ora's approach to Otis until she became frustrated and began rubbing her chin. Ora stood very still on these occasions, just watching Otis but not attempting to move. When he tried to pass her she wanted to touch him but the adult was in her way so she flapped her hands and rubbed her chin. Ora's mother wrote in her immediate thoughts record that Ora was not too

happy today. Otis's groom also commented that the session was not particularly positive for him.

The final session began very swiftly. Otis was brought to the pen early so that he could eat some grass and settle in. Ora was in a very good mood and skipped her way towards the pen. It was raining on and off and she had a new rain coat on. She kept looking at it and licked it several times. It rustled when she walked which seemed to bother her so she took it off and hurled it outside of the pen. Ora's mother and father were watching the session along with their other daughter. Ora did not look at them once.

She resumed standing still and staring at Otis like she had in the previous week, but looked much calmer this time. Otis had one ear directed towards her and edged closer to her to graze. Ora seemed to understand his intention and brushed the rain off of his back for several minutes. She put her head down to smell his neck and stayed in that position for a few seconds. Otis was visibly less tense than the prior week and stuck close to Ora the whole time. He ignored her attempts to draw a panniculus reflex from him, instead sniffing her feet that made Ora giggle and jump away. At one point Ora attempted to lift Otis's tail because she was intrigued by what was underneath. The donkey moved swiftly away and returned with his head towards Ora to avoid her enquiring, impertinent hands on his sensitive tail.

Otis called out to Onion in response to Onion's brays over the fence and Ora covered her ears. At the end of the session, Ora carried Otis's lead rope very gently and took him back to the barn. She wanted to go inside the barn gate and was upset to be locked on the wrong side of the gate by Otis's groom. Otis and Onion greeted each other and a few other donkeys came to see Otis

returning. He once more dozed but stayed upright. Ora's mum said that she was sleepy on the way home.

Ora finally gained a special school placement the next month but her school did not visit Apple Orchard. Her mother brought her along to a few Saturday sessions whereby she continued to flit between relaxed staring to moments of intense touching. Otis was still in the riding programme but his sessions were reduced to once or twice a week.

Ora's parents were quite surprised at just how keen she was to attend the sessions each week and her ability to stay focused for so long. They felt that the sessions were something she enjoyed and they were happy to see her acting spontaneously. They were not expecting the sessions to change Ora but instead felt that they were changed from watching Ora and Otis together. They saw clearly how her obsessions and patterns of behaviours formed by seeing how she discovered and then instigated the panniculus effect on Otis. They were intrigued how their daughter's motor stereotypies were used as part of her developmental learning. She still displayed obsessive and compulsive behaviours and her stereotypies were more evident at that time, yet she used them as a framework for learning and investigation. Their attitude to her changed from confusion to a greater understanding of how their daughter experienced the world. They felt more confident at looking for the markers of development that professionals used so that they could challenge their judgments. They learnt to intervene a little quicker in new situations where an undesirable habit could easily form. Ora's father was pleased to see her integrate with the team at Apple Orchard because she when previously she had

found new people challenging. They enjoyed their part in the project and were pleased that Ora had taken part.

Otis's groom celebrated his fun spirit and felt uncomfortable that Otis had not enjoyed some parts of the sessions. She was concerned that she hadn't really looked for stress signals before but was glad that she had the chance to see Otis's behaviour so evidently. One of the best things that she learnt about Otis was just how quickly he bounced back from perceived stressors. She was very proud of Otis and felt a deeper affection for him now that she was able to read his expressions more clearly. Otis approached Ora without prompting several times during the last session. The freedom and understanding that he could walk away appeared to display a natural curiosity towards children without the need for coercion. This approach was later adopted as an operational practice at all of the Donkey Sanctuary interaction centres. Interactions that enabled participants to engage with each other on their own terms within the realms of practicality and safety meant that donkeys like Otis were able to show consent or non-consent very easily. Otis's grooms appreciated the opportunity to study the parts of him that revealed his emotions to them during the project. They often discussed their impulse to make the 'right decision' for him and his companions because as humans' they felt 'almost like parents' towards the donkeys in the care. They realised that their donkeys were very capable and able to make the right decisions for themselves but were often prevented to from doing so by well-meaning humans. They also reflected on the head collar and what a powerful object it was both to them and to Otis. On the one hand they could direct his head to where they wanted him to go but, on the other, he could plant all four hooves and refuse to move, leaving them feeling frustrated. Watching Otis without a head collar reminded them that decisions that they

made for him against his will should be weighed up against the importance of what they were asking.

### **It's not for everyone**

Ray had just turned eight years old at the start of the summer sessions. His parents had not noticed anything unusual about him until he was around 18 months old. Ray had an older brother and his mother noticed that her son was not following the standard development path that his brother had taken as a toddler. Ray's parents felt that he changed dramatically after his inoculations and continue to feel that his autism was a result of the inoculation injections despite being aware of the discredited evidence that once supported that theory. At first both parents tried to pretend that it would all be okay in the end but eventually took Ray along to his G.P. for assessment. They said that they went through 'a whole journey of exploration looking for the magic thing because secretly we wanted there to be one.' As his behaviour became more diverse they set about reading and consuming as much literature on autism as they could. Ray would stare and stare at objects as well as eating almost anything including toys. He had not mastered toilet training at the time of the research and his nappy required a specialist belt to stop him removing it. Ray screeched and sang at a high pitch for long periods of time. His speech therapist had introduced a communication system of symbols to help Ray communicate his needs but his father was not convinced that he was able to relate a two-dimensional symbol to a real-life object. Sometimes he felt that his son viewed people as objects and didn't really understand that they were people with their own needs. The family had cats and dogs at home but Ray



showed little interest in them. If he wanted something he would lead any human he came across to the item he was interested in and somehow knew that the pets at home could not get him the things that he wanted. As a result he largely ignored them.

Ray's father said that every aspect of their lives was altered since he was born and they had only ever had one night away from him in eight years. Ray would go to anyone for assistance but never sought affection. They had worked tirelessly to find a system for helping him sleep at night, which they had succeeded in doing recently. Ray slept in a specially designed tent for autistic children.

A relative owned horses and Ray was happy to visit them and not at all intimidated by their size. Ray's parents had researched equid assisted interventions for autistic children, so when they saw the advert they emailed their interest immediately. The first interview with the parents identified that they had quite high expectations and although understood that the sessions may not lead to any change in their son's behaviour, they wanted to try. They had lost hope with traditional medical interventions and felt that an activity that was 'outside in nature' would suit his needs. Ray enjoyed the outdoors and was never particularly fazed by bad weather. He liked to roam in the countryside, showing a more relaxed side to his character when surrounded by wildlife sounds.

Rubin was amongst the original group of donkeys to open Apple Orchard when it was first built. He and several of his friends were relinquished to the Donkey Sanctuary when he was five years old. They came from a further education college where they were kept as pets and had no recorded health or behaviour

problems on arrival. His constant companion, Yore, lived with him when they were foals and they were still firm friends at Apple Orchard as veteran 15-year-olds. Rubin presented a natural calmness and was relaxed carrying children on his back. He was known at Apple Orchard as a very handsome donkey, so members of the public liked to stroke or scratch him and he rarely moved away from them.

Rubin had been a part of the team of donkeys that visited older people's homes. He was responsive to older people and was happy to travel on his own in a trailer. His groom said that he was her first choice for the research because he enjoyed ground work and was very much a 'people person' when working. She was aware that when he was not working, he could be a little 'cheeky' and 'tested people.' Rubin looked a little reluctant to leave his friends when his grooms appeared to lead him into the sand arena on some occasions. After a discussion, his main groom agreed with the researcher that he preferred to be in the barn or the field with his friends. Rubin had been working at Apple Orchard for ten years at the start of the research sessions and had formed quite close bonds within the herd.

The first session took place on a warm, sunny afternoon. Rubin was led to the pen before Ray arrived to have a chance to settle because the family had been held up in traffic. When Ray's mother and father took him out of the car he ran straight inside Apple Orchard at an incredible speed. The quiet and calm of the sanctuary changed almost immediately when Ray began screeching and running around. The donkeys in the barn were craning their neck to see where the noise had suddenly come from and Rubin stopped eating grass from the pen and looked towards the building. I took Ray's hand and calmly walked him

out of the building and towards the pen. The family sat down outside the pen once Ray entered but he took one look at Rubin, who was quite startled, and climbed over the side of the sheep hurdle. There then ensued quite a chase from Ray's dad, who followed him across one side of the field and back up the other side. Eventually Ray was ushered into a large garden area which was designed as a sensory space for both children and donkeys. It had models of flora and fauna dotted around a path with a central wooden gazebo. Model penguins, spiders, apples and other interesting objects mingled with plants and grasses. Ray settled down at a giant fibreglass apple that had a pool of rain water sitting in the curved top. He immediately began dipping his fingers in and licking them before putting his head to the water to drink directly.

Rubin had been intently watching the child running around with his head up and both ears directed towards him. He had looked over to the barn where another two of his friends were also watching him from their closer vantage point next to the garden. They too had both ears pointing towards Ray. Rubin looked a little stressed when his groom put his head collar back on and started walking him towards the garden. When he entered the garden she led him around the path which he was familiar with. He usually carried children from inside the arena to the garden and then back again as part of their ride on his back. Rubin began to relax at the familiar pattern of his walk. When he walked passed a singing Ray, still slurping water from the model apple, he traced his movements with one ear. Rubin was confused by the child who had not shown any interest in him at all. When he was released from his head collar he grazed near the child, who moved away if he got too close. Ray's father had moved out of his sight so that he didn't see him in case he become fixated on his whereabouts. His mother was close to the garden and occasionally Ray looked at her but went back to

his exploration of the model apple with his mouth. After ten minutes, Rubin was led back to the barn, turning his head to look at the child with both eyes and ears on him as he passed. The grooms and parents were previously made aware that they could stop the session at any point that if they were concerned for their participant. Rubin's groom had indicated that he was looking confused, so the session was stopped. Ray was led into the sanctuary play room and given a packed lunch of sandwiches and cake. He rolled most of the food into a ball before smearing it on his head and then eating it. He sat at a table to eat and was the quietest he had been since he arrived. I held my hands, palms open, towards Ray and he mimicked me by placing his flat palms on top of mine. For at least two minutes Ray followed my hands as I circled them around and around and he seemed to notice the light shining from the window through our fingers. Ray's parents felt that he had made significant progress that session and were looking forward to the next week when they thought he would settle quicker. Ray's groom was a little concerned that Rubin had been quite unsettled during the session. He slept immediately after arriving in the barn but bounced back when he woke up, instigating a game of wellie tug-of-war with Yore.

The second session was rearranged later in the day from the original time because the family had an engagement elsewhere. Ray was a little calmer once he was taken from his car, but walked straight into the building and climbed into a holding pen. He sat on the floor, playing with wood shavings that were set up as a bed for the donkeys to use later that day. The pen was set up with an empty water dish and a block of salt that the donkeys lick from time to time. Ray sat crossed legged on the floor pouring wood shavings through his hands to the floor over and over. He was singing quietly to himself and looked very content.

His dad came into the pen with him initially and asked if Rubin could come inside the pen rather than disturbing Ray by trying to take him outside. The child had a very relaxed face and looked perfectly at ease amidst the shavings. Rubin was outside eating grass in the pen and enjoying the opportunity to graze grass without interruption. He had heard Ray arrive and brought his head up to look at the building but when he didn't appear outside, he had continued eating with one ear on the door. There was quite a lot of flies around because the warm weather seemed to be attracting them. He occasionally stomped his food and swished his tail whilst eating but was otherwise very relaxed. Yore had gone out to an older people's residence visit earlier in the day so Rubin had been grooming with another friend prior to coming into the pen. The barn was quiet because many of the donkeys were snoozing under cover away from the direct sun.

When Rubin's groom came to collect him to take him inside he didn't want to go. He planted all four of his feet as she gently moved the rope attached under his head collar back and fore. Eventually and very reluctantly, he followed her inside the building. He saw Ray sitting quietly on the floor in a place that he was accustomed to standing himself and focused both his eyes and ears on the child. Ray looked up at him for a fleeting moment and observers felt a surge of relief that the participants had made eye contact at last.



*Photograph 18: Who's in my bed?*

Rubin was quite unsure of what was expected of him. There was no grass to eat and it was a strange type of ground encounter with the child sat in his bedding! He peered around the rest of the arena until Ray caught his attention by pushing his bare feet into the wood shavings and giggling at the pieces falling through his toes. Ray tried to remove his nappy a few times but was unsuccessful so sat back down in the shavings. Rubin's groom began stroking him when he approached her for assurance.

After five minutes Ray got up and began exploring the mesh sides of the pen.



Rubin took his opportunity to reclaim his bed and walked over very quickly. Ray came back to the bedding and touched Rubin's side very quickly before sitting

down near his back legs. The adult in the pen moved a little closer because she was concerned that Ray could be stood on accidentally but neither Ray nor Rubin



*Photograph 20: Too close for comfort*

appreciated the intrusion so both moved away. Rubin once more approached his bedding and stood in the middle of it with one ear directed on the child. Ray decided to push Rubin off the bedding with his hands, albeit gently. Rubin didn't

move. There appeared to be a standoff of personal space. Ray wanted Rubin out of his play area and Rubin wanted Ray to be stood where other children normally stood, not on his bedding! This standoff lasted two full minutes before Ray began screeching and banging his ears. Rubin was quite concerned at the sound. His ears flattened and his breathing increased. Ray's father came in to the pen to try and sooth his son because he wanted the interaction to continue

as it had been. Meanwhile Rubin began pacing towards the exit whilst watching Ray. His eyes were very triangular in shape indicating concern.

Ray suddenly climbed over the sides of the pen and ran to the arena that was set up for a later session. He began exploring the plastic cones and poles whilst continuing to screech in a high-pitched voice. Rubin watched from the pen but made no attempt to move. Rubin's groom decided to call the session to an end with the agreement of all observers. He was led though the arena towards the exit door that would take him to the barn. Ray's screeching increased and Rubin moved quickly away from child.

Ray's father felt that the first part of the session was very positive; he was pleased that his son had engaged with Rubin with both touch and eye contact. Ray had tolerated being in quite close contact with Rubin and the parents felt that the proximity of the adult had broken the spell. The adult facilitating safety was aware that her presence had altered the mood but felt that safety was paramount. Apple Orchard staff had made several concessions by permitting Ray to stay in a pen without shoes on and they felt that the pen he had climbed into was too small for the interaction. They were not comfortable allowing Ray to sit on the floor so close to Rubin when he was showing signs of confusion. Ray's parents were more concerned that he had made a choice and it was best not to upset him without good reason.

The third session was another hot, sunny day. Ray arrived in loose clothes and took his shoes off immediately. Rubin had been in the outside pen for ten minutes, grazing and enjoying scratches from his groom. There was a discussion before Ray's arrival that concluded in the agreement that the session would be ended immediately if Ray screeched and Rubin became



uncomfortable. Strangely, Ray did the complete opposite. He entered the pen with his father and calmly sat on the ground, watching the grazing donkey. Ray's father had a sore back so bought a plastic chair with him to place in the corner. He wanted to sit inside the pen to offer comfort should Ray require it. The child and donkey were at their calmest on the third week. Ray flitted between the floor and his dad's lap whilst singing and watching his moving fingers between squinted eyes. At one point he bent down to watch Rubin eat grass and plucked some grass with his fingers. He ate the grass and then copied the donkey by eating with the grass directly from the ground his mouth. Rubin found the child's behaviour out of the ordinary and stopped eating to watch him. There was an amusing circular performance of the donkey and the child eating which prompted the donkey to stop eating. Then the child stopped eating, and then the whole cycle began again.

Rubin became relaxed and seemed to understand not to approach Ray for fear of him screeching again. A very loud bray came from the barn and both Rubin and Ray looked over. Ray covered his ears and immediately hopped over the hurdles running at full speed across the field with his father chasing after him. Rubin continued eating, looking up from time to time but not particularly bothered.

When Ray was finally apprehended by his father he turned and sprinted back toward the pen. Instead of entering he walked past the barn towards his family car. His parents were pleased with the calmer session but realised it had come to a natural end, so took him home. Rubin's grooms had already taken him to the barn because they felt that the session was positive for him and wanted it to

end on a high note. Rubin slept before joining Yore for an allogrooming session a little later. Ray parents said that he seemed very happy for the rest of the day.

Ray's father cancelled the final week because he was unwell. Both parents commented on how welcome they felt at Apple Orchard and how impressed they were with the sensitivity with which they felt their child was treated by the staff and research people. They were disappointed that Ray had not been more interested in Rubin and would have liked to have had more time for Ray to get to know the donkey. Despite their initial expectations for outside spaces, both parents thought the environment was too stimulating for him and came to realise just how much modification they had made to their home to meet his needs. Ray mimicked Rubin on a few occasions and his father thought that this indicated a type of empathy for the donkey which he felt showed him understanding that the donkey was a person and not an object. Observers had the impression that Ray was simply copying a behaviour that captured his attention and that the behaviour happened to be a donkey's and not a human's. It would be impossible to know for sure.

Generally Ray's parents felt that his behaviour was quite typical for new situations, but they felt sure that he had 'connected and became interested in' Rubin. They accepted that equid assisted interaction was not the answer that they were looking for and indeed that it was not for everyone. Yet they had clearly hoped that their son would recognise the attempts at engagement by Rubin and for him to do more than briefly acknowledge the donkey's presence.

Ray's parents were offered the opportunity to bring him to Apple Orchard's Saturday club but they were unable to commit at that time. They thought that

perhaps once he became calmer and found an intervention or strategy to help him they would think again.

Rubin continued to carry children on his back from time to time but also carried out ground work in the pen. His grooms found that they were much more protective of him and only wanted him to work with children who were receptive to his 'happy nature.' They felt that Rubin had not really had bad experiences of people before, which was not typical for relinquished or rescued donkeys, and they wanted that to continue. The grooms felt that Rubin bounced back after his experience with Ray but that in future they would watch him closely for signs of stress or confusion. Unlike Ray, they felt that Rubin was perfect for his work at the sanctuary because of his character, and so they were grateful for having the research time to focus on who he was when he is with children. They were keen to see him interacting with all sorts of people without a head collar and with the freedom to approach or retreat as he pleased. They were aware of the Donkey Sanctuary's recent change of policy towards a similar approach to what they had seen during the research and were excited to watch Rubin working in that way much more.

## **Final Thoughts**

The five stories presented above show the diversity of individuals of both species. Their surrounding parents, grooms and other stakeholders also have different characters and expectations so to attempt to measure benefits of EAA for any of those individuals would be unmanageable. Benefits are relative to the individual and may not even be felt at a conscious level.

Donna Haraway (1992) raised the potential for culture to influence the ways in which human-animal interactions are perceived. She cited the example of primatology where Japanese primatologists approach nonhuman cognitive and emotional capacity in very different ways to 'Western' scientists (1992:244). Human and indeed other animal's culture (see de Waal 2008) vary widely therefore 'benefits' cannot be measured as a universal entity applicable to all cultures considering the variability between and within these groups.

These stories show the importance of observing participants from many angles and accepting the unique stories as they unfold. They reinforce the findings in chapter 3, that the perception of reality about EAA reflects the positional authenticity of stakeholders and the importance of recognising how much one partner in the dyad can affect the other.

The next chapter offers a more quantitative approach to measuring the engagement behaviour between donkey and child dyads. The findings from these stories combined with a more quantitative approach provide a multidimensional view of EAA from both autistic child and donkey perspectives.

## **Chapter 5. Measuring the Quality of Engagement between Autistic Children and Donkeys**

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### **Background**

One of the criticisms of EAA is that often the chosen methodology does not offer repeatability or use in a variety of settings because the practice is not standardised. Nor does it adhere to a specific discipline guidance or legislative requirements that would ensure a regulated standard (Anestis 2014:13). The focus of this research was to measure of the quality of engagement of both autistic children and donkeys in a dyadic interaction. To address the shortfalls of EAA research, it was essential that the design enabled a multitude of administrators with only a working knowledge of either donkeys or autistic children to carry out the measurement. The intention was for the instrument to be applicable and repeatable across various settings and to be as rigorous as possible to ensure that perceived benefits of EAA (discussed in chapter 3) are based on accurate measurements from the sessions.

There is a surprising lack of attention or clarity to define ‘engagement’ in the literature. Prior to one individual consciously engaging with another, they must acknowledge the other as separate to themselves. This recognition is a precursor to engagement and I have described it in chapter 2 as intersubjectivity (see Hurn 2012:126). Measuring intersubjectivity is beyond the scope of this thesis although in the last chapter I narrated the stories of autistic children and donkeys who clearly showed an awareness that the other person in the exchange is indeed another, separate to themselves. The stories demonstrated how interspecies individuals come to understand each other

using 'sensory modalities of knowing' as described by Haraway (2008:371). Their awareness of each other was embodied by their sensory exploration of each other by use of their senses as Haraway suggests. Their knowing was gleaned by use of smell, enquiring touch, vision and hearing. Solomon's (2015) research on an autistic girl taking part in animal assisted activities supports the idea of embodied knowing between species and concludes that 'Intersubjectivity is often thought of in terms of 'reading minds,' but what is happening here is 'reading bodies' (Solomon's 2015: 326). Extending the idea of reading bodies, this chapter focuses on measuring the observable, physical cues of engagement by recording interactive, body-action-exchange between participants.

In chapter 2 I highlighted the importance of understanding the enfolding relationship between children and donkeys prior to identifying perceived benefits. I am suggesting that the quality of engagement by one partner would have an effect on the other partner's engagement during the same session, irrespective of species.

A systematic search of the literature using search terms 'autistic children engagement' and 'donkey engagement' using Boolean operators did not reveal any specific instruments or tools suitable for this research. I used the Ovid platform and data bases PsycINFO, MEDLINE and the Web of Science and scanned the reference lists of relevant research. This identified DeRose et al. (2011:391), whose methodology addressed multidirectional relationships (patient-donkey-therapist). They were interested in emotional-relational parameters between children and donkeys and found that verbal autistic children express themselves physically more than verbally in the EAA context. Their measures of engagement relied on somewhat subjective judgments from

therapists who considered concepts such as emotional participation, enjoyment of contact and assertiveness levels. This was scored as high, medium or low. They did not assess the donkeys' engagement with the children. The children in the study also produced graphical data in the form of drawings to represent their feelings. Their methodology was not suitable for this research because it did not measure donkey and child engagement during sessions. The concepts that they measured relied on specialist observers and children who were able to produce drawings. Their methodology would have been meaningless for the participants in this research project.

The Human Animal Interaction measurement scale (Fournier et al., 2016:47) does focus on the behaviour of both the human and the other animal, but it includes a self-report tool that is not appropriate to use with non-verbal autistic children who have no means of providing self-reports.

Wilson and Netting performed a 'state of the art (2012:11)' overview of available instruments that assessed characteristics of human-animal interactions, but none of these 140 tools were able to address the inquiry of this thesis. None were aimed specifically to the engagement of participants during interactions. Wilson and Netting argued that 'when one has seen one study in human-animal companionship, one has seen one study (Wilson and Netting 2012:17).' They suggested that new research should consider the use of existing instruments or tools in order to substantiate the evidence already offered and stated that:

[I]f the field [of human animal interactions] is to develop credibility, it needs more intentionality in designing studies that are comparable in the interventions, using valid and reliable measurements (Wilson and Netting 2012:17).

Although I did not wish to exacerbate the problem by adding yet another tool, after an extensive search for a comparable intervention it became obvious that there was not an existing instrument available to measure the quality of engagement between autistic children and donkeys. I was unable to find a tool that could be adapted to this research because none focused on the engagement of both participants. A new one was required for use in a variety of settings by multiple researchers to add evidence and credibility to EAA research.

This chapter reveals the methods developed and employed to measure the quality of engagement between autistic children and donkeys. Phase 1 began with a pilot study that provided the basis of engagement descriptors and produced qualitative accounts from key stakeholders. Phase 2 followed on from the pilot study to develop an instrument that could be used in conjunction with other contextual and tangential evidence in numerous settings. The design of this Quality of Engagement Tool (from here on QET) is presented here with a detailed account of how it was validated, showing high levels of agreement between users.

The final part of the chapter tests the QET with 42 children–donkey pairs, as well as control conditions of donkeys interacting with other donkeys and children interacting with other children. I analyse the data statistically and discuss what the results reveal about engagement with conspecifics and heterospecifics.

### **Phase 1: The Pilot Study**

A pilot study was conducted at Apple Orchard. Staff and volunteer teams at Apple Orchard were presented with the ideas behind the research in February



2016 and were willing and enthusiastic to take part. A small team of staff were gathered by self-selection and availability to attend all sessions of the pilot study. Some of the staff that were unable to be a part of the pilot study offered me examples from their work with other children so that they could be included in the research. These discussions were informal, but provided me with design ideas for the forthcoming pilot study. They also reinforced the findings of chapter 3, that the perceived value of EAA was dependent on the positional stance of the person telling the story. I was once more reminded that any design to measure engagement must be suitable for a variety of observers using a language common to everyone.

Prior to this research, Apple Orchard had used various EAA models for their interaction sessions. Some of these models appeared to be better than others for facilitating direct interaction between children and donkeys (pers. comm.). To measure dyadic engagement reliably, it was essential that the interaction setting and the EAA model used for this research enabled participants' unimpeded access to each other.

### **The Interaction Setting**

As cited in chapter 2, EAA takes place in a number of environments and the forthcoming QET was intended to be flexible enough to accommodate many of them. Prior to the start of the pilot study, I had visited a branch of the Italian Donkey Sanctuary and my observations there greatly affected the design of the pilot (see chapter 4 for a qualitative account). In the UK, the weather often dictates where EAA takes place. In the winter, Apple Orchard, where the previous chapter's interactions took place, used a large enclosed arena to

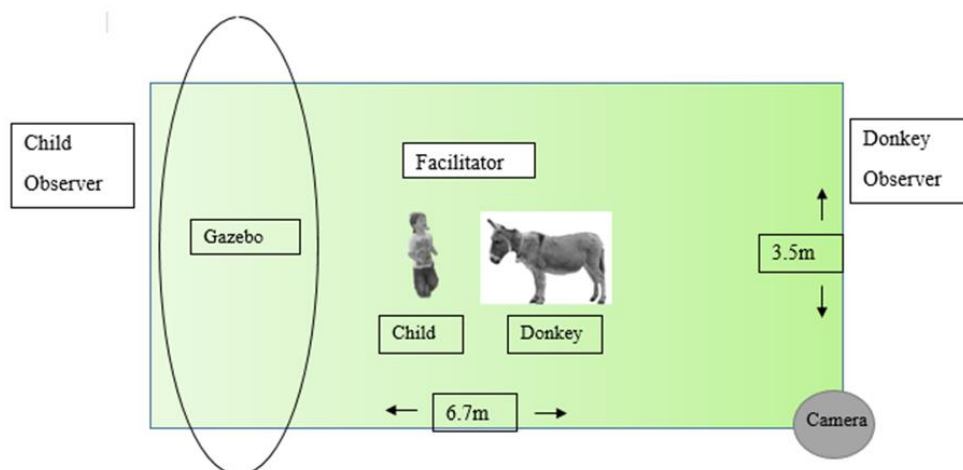
protect donkeys and human visitors from the wet and cold UK weather. During the summer of 2016, the south of the UK was experiencing a warm spell and the donkeys were enjoying long, sunny days. Summer was a good time to enable donkeys and children to experience their interactions outside with smells and other environmental signals that they were comfortable with. Bekoff (2007:113) proposed that ‘...if you really want to know how animals live, think and feel from their point of view, then you need to join them in their world. Outside’. Agreeing with Bekoff’s suggestion, Apple Orchard grooms concurred that outside would be preferable for the donkeys during the summer.

Berger (2008:316) proposed that children with learning difficulties, including autism, benefit therapeutically from being outside in nature. He founded a therapeutic education programme called ‘Encounter in Nature’ that ‘operate[d] in ‘natural’ spaces within or near school grounds.’ I was not surprised by Berger’s findings because during 2007, I was a deputy headteacher in a school for children with learning difficulties. Alongside a music therapist and a psychiatrist, we designed and implicated a program to increase creativity with our autistic children by working outside in various natural areas around Bath, UK. We found that working outside increased the children’s awareness and stimulated a sense of calm. Parents of the Apple Orchard pilot children agreed that interactions outside would be beneficial for the children during the warmer months. The purpose of the pilot study was to collect rich data about engagement; therefore it was hoped that an outside environment would ensure that the participants of both species were comfortable enough to engage with each other.

The simplest way for participants to access each other without interruption by other adults or equipment was to bring them together in a common space and leave them to decide whether to engage. Some EAA models use equipment to restrain equids because of safety concerns. For example, it is common practice to 'halter train' equids so that they can be led or attached to a place of the human's choice. Discussion with senior Donkey Sanctuary personnel, parents and grooms revealed no such safety concerns. It was argued that if the equid required 'holding' via a halter, they would be more likely to feel trapped and unable to perform spontaneous behaviours (pers. comm.).

The design of the interaction area was purposefully minimal, consisting of a grass pen with a gazebo covering one end for shelter from sun or flies (Figure 1). An adult facilitator was present in the background during the interactions so that the donkey and child were free to explore their environment and each other unimpeded. There was an entrance and exit gap that allowed egress should participants have made their intentions clear that they wanted to leave. The edges of the interaction area were made from connecting sheep hurdles that stood at 93 cm in height.

**Figure 1: The interaction area used for the pilot study, showing the arrangement of participants and adults during the interactions**



## **Pilot Study Participants**

As stated in the previous chapter, child participants were recruited through PenCRU (Peninsula Cerebra Research Unit), a childhood disability research team based in Exeter. Four children aged 4-9 years old who were diagnosed with autism and their caregivers were recruited. The children had never accessed EAA before and had not shown aggressive or harmful behaviours in the past. I made the decision to assume that each autistic participant, who had already received a battery of diagnostic tests to receive the term 'autistic', did not need yet more tests to confirm their autistic-ness.

Four gelding donkeys from Apple Orchard aged 7-18 years old were chosen from the herd by their grooms.

## **Collection of Engagement Descriptors**

Describing human–donkey interactions relies on the human interpretive process. Reflexivity can be consciously attended to, particularly in discussion with others, but choice of words is ultimately subjective. Some observational techniques provide a structured framework whereby observers choose from given statements and this has the advantage of producing data that can be interpreted using more inferential analysis. This type of approach could be described as positivist. Bernard (1993:3) proposed that

There is an irreducible difference, for example, between those of us in any of the social sciences for whom the first principle of inquiry is that reality is constructed uniquely by each person (the constructivist view) and those of us who start from the principle that external reality awaits

our discovery through a series of increasingly good approximations to the truth (the positivist view).

Some previous EAA research relied on positivist interpretation from psychometric data on autism (see chapter 2) and throughout this thesis I am arguing for a recognition of heterogeneity and use of methodology that captures the range of abilities within the autistic population. Nonetheless, I contended that if a constructivist approach was taken to provide descriptions of engagement, then the approximations of the truth would be reliable when used with a positivist approach later. Coupled with my own observations, parents and grooms offered a constructivist lexicon to describe engagement without restrictions of former pre-constructed, deficit-focused measurements. The QET could be described as a somewhat positivist observational tool but it was designed to sit alongside more tangential data in a richer qualitative context. The mix of a positivist tool with qualitative accounts (see chapter 4) captures both comparable data and observations unique to the individuals.

Donkey behaviour is often measured using positivist methodology. This stems both from convention and from fear of being in some way anthropomorphic or less than scientific, as discussed by Balcombe (2009: 209)

... [P]ublished studies of animal behaviour are presented almost exclusively in an ultimate, evolutionary context, without discussion of the animals' more proximate, mental and emotional experiences. This pattern arises from science's pursuit of rigor, which is assumed to be found primarily in the evolutionary context.

Interpretations that rely only on evolutionary (functional) depictions of engagement would not have given grooms the flexibility to differentiate their

observations according to character differences between individual donkeys. Grooms were very familiar with their individual donkeys and therefore recognised both subtle and bold behaviours that enhanced descriptions of the behavioural repertoire of donkey engagement. Much of the grooms' behaviour training involved reference to evolutionary adaptation (pers. comm.) but for this research I was asking them to simply record what they saw. They were also accustomed with terms used from the Animal Welfare Indicators (AWIN 2015:49) Quality Behaviour Assessment tool designed by Minero et al. (2016:147). This includes evaluations of the proximate emotional state of the donkey using 15 different indicators such as: fearful, playful, relaxed, pushy, and withdrawn etc. The grooms' task was to focus on proximate engagement behaviour as opposed to emotional states for this research, but their knowledge of AWIN disencumbered them from the evolutionary rubric used in their training.

### **Procedure for collecting engagement descriptions**

Parents and grooms were asked to observe the interaction carefully and only intervene if either the child or the donkey appeared to seek outside support. The facilitator stood inside the pen to be able to intervene if necessary but remained focused on enabling a spontaneous interspecies interaction within the confines of safety and well-being. At the end of each interaction, all observers wrote down their immediate thoughts and observations. This became known in our general parlance as the 'Immediate Thoughts Record', although observers jotted down notes at different times and not necessarily immediately after the interactions. The sessions were videoed and I later added to my notes if the video revealed additional information.

Involving parents and grooms in the research was a way of ensuring that the end result was both relevant and accessible outside of the scientific community. The method of including stakeholders in research is sometimes referred to as Citizen Science (Hand 2010:685). Citizen Science is becoming increasingly recognised as a useful way of collecting rich, actor-led data. Another method for bringing stakeholders into analysis of research is Action Research, which Adelman (1993) described as a process [that] 'gives credence to the development of powers of collective thought, discussion, decision and action by ordinary people taking part in collective research on 'private troubles' that they have in common' (Adelman 1993:8, in Berg 2014:195). 'Private troubles' would be better termed as 'common experiences' for this research, and both grooms and parents were keen to participate and help assess the types of relationships that their respective participants would develop. Action research brings together 'action and reflection, theory and practice, in pursuit of practical solutions to pressing concerns (Bradbury 2015:1). Action Research requires a practical level of agreement between 'researchers' to ensure consistency. One such agreement was that parents, groom and facilitator should not interfere with the interactions. Although the facilitator and other responsible adults were well-meaning, there was a danger that in an attempt to assist, they would interfere with the richness of the interaction. The encounters were more fruitful because the participants were left to use their own communication methods without impediment or distraction from others. The facilitators and other responsible adults agreed to avoid interacting with the donkey or child with the exception of ensuring consent, safety and wellbeing of their participants. Brandt (2004:299) argued that humans and equids 'co-create a language system by way of the body', therefore spoken language from other adults would have caused a

distraction or interrupted the flow of engagement. As cited above, De Rose et al. (2011:47) also found that autistic children express themselves physically more than verbally in the EAA context. Whittaker (2012:16) suggested that ‘... non-verbal young children, with severe autism...will show aversive reactions to complex speech but not to a silent interlocutor, or one imitating their vocalisations in proximal encounters.’ Adults were mindful not to use speech unless the safeguarding or wellbeing of participants required it.

## **Welfare and Ethics**

Ideally an interspecies interaction between two beings should flow spontaneously and be left to develop its own path when there is a research agenda to record that interaction. The participants in this pilot study were considered vulnerable and their safety and wellbeing relied on a high level of vigilance and facilitation that had the potential to interrupt the interaction. Several layers of risk management were carried out to ensure that the proposed interaction model was appropriate for the needs of the participants. The donkey participants were risk-assessed for benefits and harm for this research by senior staff from the Donkey Sanctuary. The same assessments for benefits or harm were completed for the children by myself in partnership with parents. Responsible adults in this study took into consideration that the participants (donkeys and autistic children) did not verbally communicate; therefore, their consent to participate and their ongoing willingness to be a part of the encounter was monitored by parents or grooms who were familiar with how they expressed themselves.



Some donkeys at the sanctuary were bequeathed from legitimate kindness from their previous guardians but had some suffered trauma before they arrived at the charity. Donkey Sanctuary staff considered the suitability of the donkeys for these encounters from both the human and equid perspectives. Only donkeys who were judged to be pro-social towards humans via an internal screening procedure were suitable for this project in an attempt to stage a positive experience for the donkey and child participants.

Children who had previously displayed aggression or harmful behaviour towards pets or other animals would have posed a risk to donkeys in this study and were therefore not suitable although no such children requested a place.

All adults working at Apple Orchard were screened using a Disbarring Service (DBS) check and all staff and volunteers followed a safeguarding policy and were trained in safeguarding. I worked within the framework set out by the ethical guidelines of the Association of Social Anthropologists of the UK and the Commonwealth (ASA 2011) and the Association for the Study of Animal Behaviour (ASAB 2018)

## **Observations**

Flick (2006) suggested that ‘observation should cease when theoretical saturation has been reached ... [and] further observations do not provide any further knowledge’ (Flick 2006: 217). In this case, theoretical saturation occurred when observers did not notice any new behaviours, just repeats of behaviours that they had seen before. Saunders et al. (2017) suggested that saturation is not a point in time or a ‘straightforward question, but one that

much better highlights the fact that this can only be a matter of the analyst's decision—saturation is an ongoing, cumulative judgment that one makes, and perhaps never completes' (Saunders et al. 2017: 1901). Later discussions with observers revealed some redefining of terminology that better described what they saw, confirming the organic process of saturation within this context.

Naturalistic observation sessions generally lasted for 20 minutes but there was some variability in duration if notable interactions extended over that time. In four cases, interactions lasted up to 30 minutes maximum. If either participant showed a lack of consent the session was stopped immediately. This only happened in one session. Participants came together at the same time and on the same day for four consecutive weeks of the school summer holidays in the South West of the UK.

### **Immediate Thoughts Records**

The parents and grooms were asked to complete a short 'immediate thoughts' written account during or after each session, with a view to using descriptors that capture engagement. The immediate thoughts records were actually blank pieces of paper so that adults could present their own view of the observed interaction. Webster and Mertova (2007) suggest that collecting this sort of narrative from humans is well suited 'because of its capacity to record and retell those events that have been of most influence on [them]' (Webster and Mertova 2007:1). Parents or grooms focused on their respective participant (child or donkey) but were invited to comment on the other should they wish. My focus was on the interactions between all participants.

## **Results of the phase 1 pilot study**

For the purpose of consolidating the descriptions for QET items I utilised Thematic Analysis methodology once more, the first use of which was described in chapter 3. The contextual qualitative data from the pilot study and other qualitative or anecdotal records were presented in the previous chapter.

### **Thematic Analysis**

The next stage of the phase 1 research was to identify patterns of descriptors relating to engagement that could ultimately form the QET lexicon. This involved initial identification of loose themes and then later more specific terms to describe different aspects of engagement. I followed the seminal 'Phases of Thematic Analysis' model by Braun and Clarke (2006:11) who suggested that 'a theme captures something important about the data in relation to the research question, and represents some level of patterned response or meaning within the data set.' Unearthing patterns of responses from the Immediate Thoughts Records involved transcribing them in full and becoming thoroughly familiar with the data (phase 1, Braun and Clarke 2006:87). It is not known how many themes a thematic analysis will produce during the initial stages. Prior to the themes being extracted from transcripts, I began to notice notable or recurrent patterns of language, otherwise known as codes. They tended to be action verbs in sentences such as 'shoved against child' or 'purposely moved away from donkey.' Other codes that started to develop at this stage consisted of descriptors such as 'tense, rigid, relaxed, and movement' as well as detailed accounts of interactions minute by minute. Using the transcripts I was able to identify clusters of examples of engagement that were either intentional,

passive or unwelcome. 'Moving purposefully away' was obviously unwelcome and other codes in that category included 'rigid, tense, and reactive.' Braun and Clarke (2006:88) defined this clustering of codes as phase 2.

The next stage, phase 3 (2006:88), involved further analysis that gathered the clustered codes into actual themes; for example, descriptor codes such as interested, intentional, purposeful and initiating were collated under the theme 'curious.' Two other themes were identified during phase 3; 'relaxed' and 'unwelcome.'

Braun and Clarke suggested that during the final phase 4, 'Data within themes should cohere together meaningfully, while there should be clear and identifiable distinctions between themes' (2006:89). They advocated re-visiting the original data to ensure that the identified themes represent those data. I shared my observations with parents and grooms by email or telephone and gained agreement about broad themes and descriptor items. The word 'unwelcome' morphed into 'aversive' because it better described behaviour of both donkeys and children. Unwelcome behaviours are just not wanted and that may not be easy to identify. Aversive behaviours communicate a response to others' actions, such as their personal comfort zone being encroached by another's proximity. Aversion is a communication to the other and not necessarily a negative thing unless the other participant does not respond appropriately, in which case it could cause an escalation of behaviour.

Other qualitative data analysed from the pilot study did not fit into the thematic analysis methodology and is discussed in the last chapter.

## **Method for QET Construction**

With the themes identified and the behaviours that corresponded with them categorised, it was time to move towards more positivist methodology.

There were two components necessary for the tool, one for autistic children and one for donkeys. Administration of the QET also required one person observing the donkey and another person observing the child to ensure equal consideration for both species. This was to avoid the possibility that one member of the dyad would gain a larger share of observers' attention with unusual, amusing or neotenic displays, rendering the other partner's subtle behaviours unintentionally missed by casual observation. This observational bias, possibly quite common in other EAA sessions, would mean that concern signals could be unintentionally hidden in plain sight. Donkeys are generally more stoic than horses and may only display subtle behaviour changes when in pain or fearful (Hart 2008:78; Whitham Jones 2018: 219). Equally, some children with autism may also show nuanced behaviours that could easily be overlooked, so each participant required an observer who focused exclusively on them.

In support of Wilson and Netting's suggestions (2012:16), a prerequisite of QET was the potential for repeatable and reliable data. Thus the terms used to measure engagement required credible agreement amongst several raters so that they represented a valid measure. Wilson and Netting's recommendations for new tool construction encompassed measures suggested in the seminal work by Grinnell (1997:168) to ensure rigorousness such as content validity and face validity.

## **Content Validity**

Grinnell suggested that 'Without good judgment and a strong knowledge of the field, the tool may have little or no content validity' (Grinnell 1997:168 from Wilson and Netting 2012:16). The Thematic Analysis from phase 1 identified items for the QET so that the content of the tool was reflective of the research inquiry and described engagement for the selected participants. The constructivist methodology, chosen to generate themes and item descriptors applied to them, ensured that all features of potential engagement were considered. Content validity for the QET came from the collective good judgment of parent and groom 'Action Researchers' who had strong practical knowledge of the typical behaviours of the participants.

## **Face Validity**

So that this tool would be suitable for use within a range of EAA settings with wide-ranging variables, it was essential that administrators judged it useable and that it did exactly what it proposed to do. Grinnell called this face validity:

Face Validity refers to perceptions by persons administering the tool, as well as respondents, that it measures what it is supposed to measure (Grinnell 1997:168 from Wilson and Netting 2012:16).

Each session from the pilot study was video recorded. The videos were edited using Windows 10 Movie Maker (2012) into a 20-minute film that represented an array of behaviours and interactions taken from the 4-week observations. Although the editing of the video was a subjective exercise, care was taken to include a range of interactions randomly selected from all four dyads based on

my knowledge of autistic children and equids, coupled with the 'immediate thoughts records' feedback from the Action Researchers.

The 20-minute film was shared with professionals with a 'strong knowledge' of the field as suggested by Grinnell above. The professionals were either academic or working specialists, seven of whom specialised in donkeys and six in childhood autism. They were asked if the themes and item descriptors were logical and reflective of what they saw and specifically if they were representative of engagement and not simply behaviour in general. To ensure face validity, they were asked to edit the descriptors and corresponding themes (Relaxed, Curious and Aversive). Whilst editing they were asked to generate any items that they felt were missing. There were initially 27 descriptors for child engagement and 29 for donkey engagement generated before they were edited by the professionals.

The edited descriptors were then collated and re-ordered into an ethogram-style chart with behaviours classified as either Curious, Relaxed or Aversive.

Although Curious and Aversive behaviours were fairly simple to classify and readily agreed upon, Relaxed proved to be problematic. There were times when both children and donkeys looked calm and content in the presence of others during observations, but were not necessarily identified as relaxed. The descriptor 'relaxed facing away from other' rendered the participant inactive whereas they could have been calm but moving around with no interaction, which would not be classified as relaxed. Minero et al. (2016) described an 'At Ease' category in their qualitative behaviour assessment tool that provided a better description of being relaxed while active or inactive. They defined 'At Ease' as 'relaxed, calm with other animals, non-anxious, carefree' (2016:148).

So after much debate the term ‘at ease’ replaced ‘relaxed.’ Descriptions of all three themed categories are given in Table 2.

**Table 2: Themed Categories**

<b>At Ease</b>	Relaxed, calm with other animals, non-anxious, carefree
<b>Curious</b>	Inquisitive towards the other
<b>Aversive</b>	Avoidance or recoiling from the other

The 13 professionals assessed descriptor items for clarity and further adjustments were made to the terminology and definitions. In total, seven drafts were proposed and assessed until the professionals reached 100% consensus on a final set of 26 child and 27 donkey items. Items gradually evolved from complex interpretative descriptors into simple statements such as ‘standing facing away from other’ or ‘moving purposefully towards other.’ Many of the items were identical for both the child and donkey, apart from a few exceptions such as the donkey ‘tail swishing’ or the child ‘relaxed vocalising.’ It became apparent that simple descriptors, rather than complex specialist terms, provided an adequate language that was accessible.

These descriptors were then uploaded into Behavioural Observation Research Interactive Software (BORIS) event-logging software (Friard and Gamba 2016: np) for reliability testing with a larger cohort.

### **Construct Validity**

Construct validity refers to whether you can draw inferences about test scores related to the concept being studied (Heale and Twycross 2015: 66).



There are three types of evidence that demonstrate that a research instrument has construct validity homogeneity, convergence and theory evidence.

Homogeneity shows that the QET only measures one construct; engagement behaviour. In chapter 2, engagement is presented as a construct for both children and donkeys and the engagement behaviour items for the QET were validated and tested as set out below.

Convergence occurs when the instrument measures concepts similar to that of other instruments. This was not possible to measure because as previously stated, there were no other tool available to measure on-going engagement behaviours between children and donkeys.

Theory-evidence is when behaviour is similar to theoretical propositions of the construct measured in the instrument (Heale and Twycross 2015: 66). In this case, the QET offered the opportunity to measure engagement behaviours between heterospecific participants in comparison to conspecific participants (see below in the control condition).

### **Reliability of QET**

Agreement regarding the observable quality of engagement among raters was a key aim in the design of this tool. According to Wilson and Netting (2012:16) 'Reliability is concerned with consistency of a tool' and eventually it should be usable by a multitude of administrators with a working knowledge of either autistic children or donkeys. Therefore a 'test' of the tool was set up. Nineteen raters were selected to test the tool who were either donkey professionals or people who supported donkey interactions with autistic children. The ratio of

donkey / child specialists offered an equal split of people familiar with either children or donkey behaviours and represented staff ratios at the UK Donkey Sanctuary EAA centres. None of the participants were involved in earlier stages of the tool development.

Participants were asked to become familiar with the engagement descriptors on the BORIS interface. They were given 5 minutes for each list, the child or the donkey.

Next, they were shown the 20-minute film that was edited to pause every 10 seconds to enable participants to select a descriptor of what they had previously seen. The pause lasted 5 seconds and then the film resumed. Participants were told that they could press a descriptor at any time; the pauses were incorporated to give them added thought-processing time.

The participants completed the observations twice, once using the donkey descriptors and once using the child descriptors. Eleven participants were randomly selected to score either the child descriptors or donkey descriptors first to reduce biases. There was a 10-minute refreshment break in between each showing of the film.

### **Results of Testing Agreement between QET Users**

Table 3 shows the means and standard errors of frequency of items clicked by raters in Phase 1 testing. The five most common items clicked for the Child QET were 'Relaxed facing towards donkey,' 'Moving purposefully toward donkey' and 'Touching with hands,' which were from the Curious theme, and 'Relaxed Vocalising' and 'Moving around no interaction', which fell into the At

Ease theme. The five most common items clicked for the Donkey QET were 'Grazing,' 'Relaxed facing away from child' and 'Moving around no interaction' from the At Ease theme, 'Relaxed facing towards child' from the Curious theme and 'Tail swishing' from the Aversive theme. Two items in the Child QET did not receive any clicks: 'Biting Donkey' and 'Striking Donkey.' Three items in the Donkey QET did not receive any clicks: 'Bite Threat', 'Shoving with body' and 'Aggression.'

**Table 3. Means and standard errors of items clicked for the Child and Donkey QET during Phase 1**

Child QET Item Clicked	Mean	SE	Donkey QET Item Clicked	Mean	SE
Relaxed facing towards donkey	19.84	4.38	†Grazing	20.95	3.81
Moving purposefully toward donkey	17.89	2.32	Relaxed facing away from child	8.00	1.80
Touching with hands	16.74	2.34	Moving around no interaction	3.26	0.86
Relaxed Vocalising	16.53	2.33	Relaxed facing towards child	4.37	1.09
Moving around no interaction	14.84	2.44	Tail swishing	2.95	1.21
Self-stimulating movements	14.21	2.65	Stamping	2.84	0.65
Moving around passing interaction	10.58	1.71	Moving purposefully away from child	1.42	0.36
Relaxed facing away from donkey	8.32	2.28	Face and body tilted slightly away	1.21	0.43
Moving purposefully away from donkey	6.11	0.95	Tense facing away from child	1.16	0.32
Tense Vocalising	5.00	0.97	Moving purposefully toward child	1.11	0.30
Face and body tilted slightly away	4.21	1.66	Sniffing	1.00	0.37
*No Vocalising	2.47	1.19	Rigid against child movements	1.00	0.40
Passively leaning against donkey	2.37	0.55	Move body to accommodate child	0.89	0.23
Tense facing towards donkey	1.84	0.46	Tense facing towards child	0.53	0.27
Move body to accommodate donkey	1.79	0.66	Moving around passing interaction	0.47	0.16
Tense facing away from donkey	1.68	0.42	Scratching	0.42	0.33
Sniffing donkey	1.37	0.32	Kick Threat	0.32	0.17
Copying donkeys movements	1.11	0.26	Nuzzling or Nipping	0.26	0.10
*Agitated touch	0.42	0.14	†Sham grazing	0.26	0.26
Rigid against donkeys movements	0.21	0.10	*Panniculus reflex or quiver	0.21	0.10
Tasting donkey with mouth	0.16	0.12	Passively leaning against child	0.16	0.12
Sniffing hands	0.11	0.07	Tail Tucked tightly to body	0.11	0.07
*Self-harm	0.21	0.10	Touching by rubbing head on child	0.05	0.05
*Biting Donkey			*Bite Threat		
*Striking Donkey			*Shoving with Body		
			*Aggression		

\* indicates items that were removed from the final QET

† indicates items that were combined in the final QET

## Removal of Items

The Child QET items 'Self-harm,' 'Biting donkey,' 'Striking donkey' that failed to score any clicks were based on quite rare and extreme behaviours. 'Agitated touch' scored a low 8 clicks. I decided to remove them from the list of descriptors because if those behaviours were present in any interaction, it would have been stopped immediately. The item 'No Vocalising' was cited several times in the written feedback from testers because it caused considerable confusion. Clicking to identify if a child was not doing something seemed unnecessary so this was also removed, leaving 20 items.

The Donkey QET items, 'Bite threat,' 'Shoving with body' and 'Aggression' failed to score any clicks and were deemed as serious and as rare as the removed child ones above. Those were removed alongside 'Panniculus reflex', which describes the shiver behaviour that donkeys sometimes show when something, like a fly, lightly touches them. It only scored 4 clicks and was felt to be a reflex behaviour and not a description of engagement. 'Touching other' incorporated the action if the child brought a panniculus reflex about in the donkey by touching him. Although 'Grazing' scored 398 clicks, the highest number for any description, the feedback suggested that it was not easily identifiable as an indication of engagement. Sham grazing, however, which involved the appearance of grazing but without actually swallowing (Cooper et al., 2005:177), indicated when a donkey was aware of the other but gave the impression that they were preoccupied with eating. In the pilot study there were several instances of donkeys sham grazing towards the child, albeit slowly, in what one groom described as 'stealthy-donkey style.' I decided to combine Sham grazing with Grazing as a more accurate descriptor of engagement as opposed to a simple behaviour. That left 21 items in the Donkey QET.

## Measures of agreement

To measure agreement amongst raters the statistic Fleiss's kappa was used. It assesses the reliability of agreement between a fixed number of raters; in this case, the Donkey Sanctuary participants. Each observer independently assigned observable engagement to categories, and Fleiss's kappa measures the extent of agreement among observers in this categorisation. A value of 0 indicates no agreement, while 1 indicates perfect agreement.

To assess whether the agreement among raters was greater than that expected by chance, a permutation test was carried out using Monte Carlo resampling. The permutation test involved generating 1,000 replicate data sets with the same number of clicks per item for each participant, but with their original engagement categorisations randomly permuted across the time points. The peculiarities and biases of each participant were thus preserved in the randomly permuted data sets. For example, if a given participant had clicked one item 30 times and five items once then this would be replicated in the permuted data, but in a randomly determined order across the time points. The time blocks of clicks were preserved to ensure rater clicking patterns were controlled.

To test the null hypothesis that the agreement between raters did not differ from chance, I calculated the proportion of these randomly permuted data sets that showed a higher level of agreement than the original (non-permuted) data. The statistic for comparison was  $\bar{P}$ , representing the proportion of rater–rater pairs that clicked the same category at each time point, averaged across time points.

## Child Tool Agreement

Fleiss's kappa was 0.116 for the ratings of child behaviour. The observed value of  $\bar{P}$  was 0.196, which lies far outside the range of values for the 1,000

randomly permuted data sets (0.086–0.094). Thus the level of inter-rater agreement is moderate, but highly significant ( $p < 0.001$ ).

### **Donkey Tool Agreement**

Fleiss's kappa was 0.106 for the ratings of donkey behaviour, indicating a slightly lower level of agreement than for the child ratings. The observed value of  $\bar{P}$  was 0.285, which lies outside the range of values for the 1,000 randomly permuted data sets (0.187–0.219), again showing highly significant agreement among the raters ( $p < 0.001$ ).

The highly significant levels of agreement for both child and donkey ratings indicate that QET is a valid measurement tool

### **Phase 2: Using the QET to measure if partners' engagement levels are correlated, and if engagement differs between interactions with conspecifics and heterospecifics.**

As previously described, the QET was designed to complement qualitative data but also to produce comparable data for various EAA designs. In chapter 2, I emphasised the importance of ensuring a less anthropocentric approach by measuring both the equid's and the child's responses during EAA. For the next phase of the research I used the QET to assess if the behaviour of one participant affected the other and if behaviour was dependent on the species that the participant was interacting with.

### **The Engagement Questions**

The main aim for the next stage of the research was to answer the following questions:

(1) Is the engagement behaviour of one partner correlated with that of the other partner in the same session? This would show that at least one of the partners is responding to the behaviour of the other, which would highlight the importance of measuring both the equid and the human in future EAA research.

(2) Do individuals (children or donkeys) behave differently when interacting with a conspecific as opposed to a heterospecific? This would show if donkeys or children modify their engagement behaviour dependent on the species, or if they present the same engagement behaviour irrespective of species.

To answer these questions a second phase of the research was designed.

## **Procedures for Phase 2**

### **The Interaction Setting**

QET was designed to be flexible enough to be applied in a variety of settings with multiple observers in numerous EAA designs this is known as ecological validity. Subtle engagement nuances detected in real time by the QET may facilitate decision-making about the suitability, wellbeing and consent of either participant during the interactions or in relation to future ones.

Two possible settings were considered for the purpose of the second phase of the research. The initial pilot study setting was minimal as described above: a grass pen, an adult facilitator in the background and the donkey and child free to explore their environment and each other. The pilot setting worked very well during warmer weather but the second phase was carried out in January 2018, with frequent snow and rain. Although it was preferable to use an outdoor

environment, I decided to utilise the facilities of the Donkey Sanctuary's sand arenas that were under cover and heated to approximately 21°C temperature. The size of the interaction space was greater than that used in the pilot study (15 x 15 meters) and the donkeys were not free to graze (due to the absence of grass), but all other variables were kept the same: an adult facilitator stayed in the background and the donkey and child were free to explore their environment and each other.

## **Participants of Phase 2**

Forty-two autistic children who attended the Donkey Sanctuary interaction centres were recruited as participants. They ranged between 4 and 10 years old and attended special schools. Risk assessments were carried out to ensure that the children were safe and had not previously shown aggression. Written permissions were obtained via letters from parents. The 21 donkey participants were all recruited from the Donkey Sanctuary interaction centres by staff who knew them to be pro-social towards children from their internal screening procedure. Their ages ranged between 7 and 20 years old.

## **Observation and Control Conditions**

The donkey-child dyads were observed using their respective QETs to observe if engagement behaviour of one partner correlated with that of the other partner in the same session.

Control conditions were set up to assess if individuals (children or donkeys) behave differently when interacting with a conspecific as opposed to a heterospecific. For the control condition, each child interacted with another child

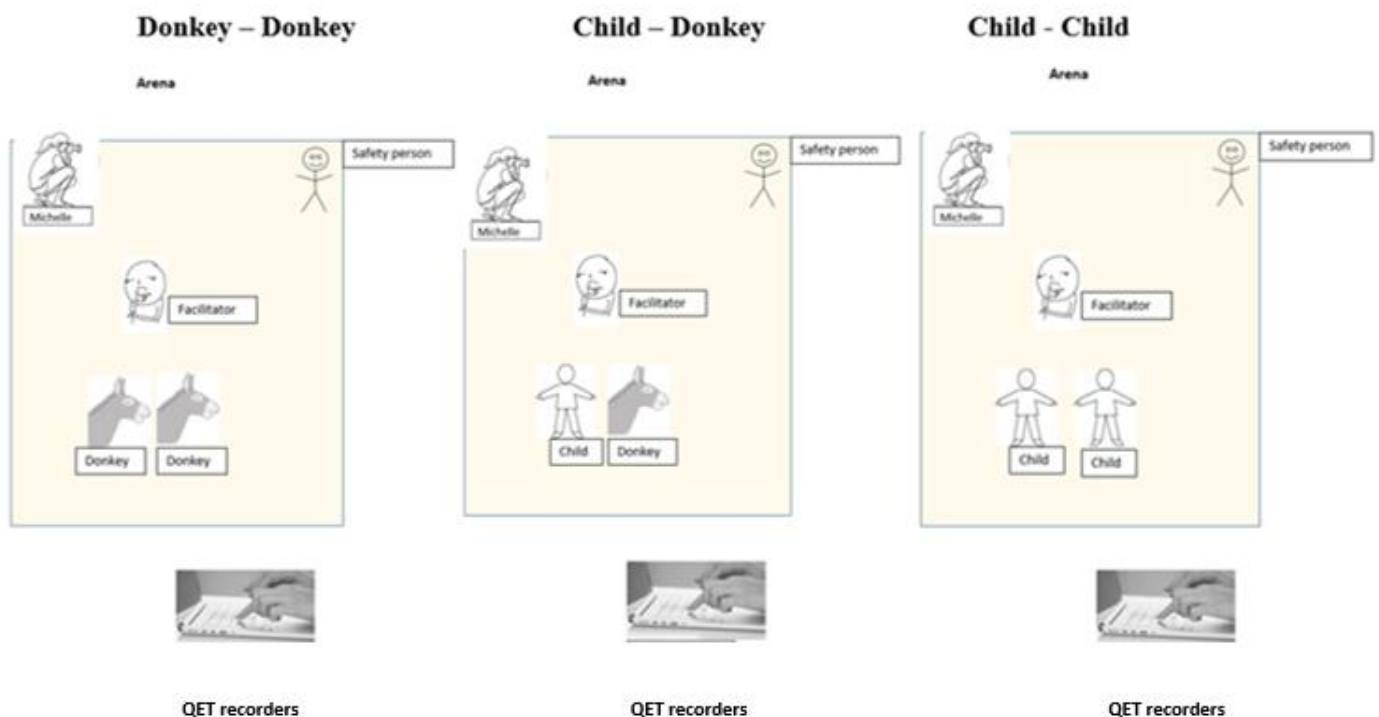


and both of their engagement behaviours were observed using the Child QET.

Donkeys also interacted with other donkeys in pairs and both of their engagement behaviours were observed using the Donkey QET.

The three conditions (child-donkey, donkey-donkey, and child-child) all took place in an indoor arena with the same facilitator stood close by (Fig. 2). The donkeys and children were not restricted in their movements; therefore, both were fully able to exit the arena if they so wished. The facilitator's role was to intervene for safety reasons or if the research team indicated that a participant was signalling a lack of consent to participate. An additional safety person was positioned in the arena but away from the interaction, in case they were needed for support.

**Figure 2. The three conditions of phase 2 interactions and the positions of participants**



## **Observations for Phase 2**

The interactions in all three conditions lasted for 10 minutes, to replicate the time typically given for this type of interaction during normal EAA sessions at the Donkey Sanctuary. The Donkey QET was administered by one assistant and the Child QET was administered by another assistant. These administrators had previously assessed both children and donkeys from the test video, so were familiar with administering the QET, and I confirmed that their scores were similar for the first session. Sessions were video recorded to safeguard the data for later analysis if necessary. The child-child condition or donkey-donkey condition was interspersed with the child-donkey condition to avoid recency or latency biases.

## **Methodology for Inferential Analysis**

I used SPSS software version 24 to run a series of statistical analyses that addressed the following questions:

### **1. Is the behaviour of one partner correlated with that of the other partner in the same session?**

The QET scores were count data and were positively skewed rather than normally distributed, so to assess the correlations between partners' scores I used Spearman's rank correlation. This first phase of analysis was crude because it ignored non-independence in the data, such as some individual donkeys being involved in more than one interaction. To correct for multiple testing of data from the same sessions, I used a simple Bonferroni correction to

adjust the significance threshold  $\alpha$  by the number of comparisons being made, to give  $\alpha' = 0.05/9 = 0.0056.2$ .

**Do individuals (children or donkeys) behave differently when interacting with a conspecific as opposed to a heterospecific?**

To test this question I used a repeated-measures General Linear Model (GLM). The outcome variable (DV) Children or donkey engagement behaviour was distributed throughout three categories; at ease, curious and aversive. The GLM was able to test engagement behaviour between species which was the predictor variable (IV). I used SPSS 24 software to carry out the GLM.

**Descriptive Results of Phase 2 Data**

When children were with donkeys the top three most clicked items for the children were 'Relaxed Vocalising' (589 clicks 20.68%), 'Touching with hands' (535 clicks 18.7%) and 'Relaxed facing towards other' (386 clicks 13.55%).

When the children were with other children the top three most clicked items for children were 'Relaxed Vocalising' (646 clicks 25.91%), 'Moving around no interaction' (609 clicks 24.42%) and 'Moving purposefully toward other' (244 clicks 9.78%)

When the donkeys were with children the top three most clicked items for the donkey were 'Relaxed facing away from other' (887 clicks 25.76%), 'Relaxed facing towards other' (757 clicks 21.99%) and 'Tense facing away from other' (414 clicks 12.02%). When the donkeys were with other donkeys the top three most clicked items for the donkey were 'Relaxed facing away from other' (888

clicks 18.58%), 'Sniffing' (801 clicks 16.76) and 'Relaxed facing towards other' (547 clicks 11.44%).

## Inferential Analysis of Phase 2 Data

1. Is the behaviour of one partner correlated with that of the other partner in the same session?

### Donkey and Child Condition

**Table 4. Spearman Rank Correlations for Engagement Behaviours between Children and Donkeys**

Significant correlations are indicated by asterisks (\* < 0.05, \*\* < 0.01, \*\*\* < 0.001).

	At Ease Child	Curious Child	Aversive Child
At Ease Donkey	0.273	0.417***	0.044
Curious Donkey	0.380	0.510***	-0.392
Aversive Donkey	0.423***	-0.062	0.029

More curious engagement behaviour by the child was highly significantly associated with the donkey showing more curious engagement behaviour ( $r_s = 0.510$ ,  $N = 21$ ,  $P < 0.001$ ) and more at ease engagement behaviour ( $r_s = 0.417$ ,  $N = 21$ ,  $P = 0.004$ ). More at ease engagement behaviour by the child was highly significantly associated with the donkey showing more aversive engagement behaviour ( $r_s = 0.423$ ,  $N = 21$ ,  $P = 0.004$ ).

### Control Condition Donkey-Donkey

**Table 5. Significant Correlations for Engagement Behaviours between Donkeys and other Donkeys**

Significant correlations are indicated by asterisks (\* < 0.05, \*\* < 0.01, \*\*\* < 0.001)

	At Ease Donkey	Curious Donkey	Aversive Donkey
At Ease Donkey	0.456**	0.282	-0.137
Curious Donkey	0.078	0.020	0.093
Aversive Donkey	-0.145	0.141	0.015

More at ease engagement behaviour by the donkey was significantly associated with at ease engagement behaviour by the other donkey ( $r_s=0.456$ ,  $N=21$ ,  $P=0.025$ )

#### Control Condition Child-Child

**Table 6. Significant Correlations for Engagement Behaviours between Children and other Children**

	At Ease Child	Curious Child	Aversive Child
At Ease Child	0.530*	0.094	-0.307
Curious Child	-0.189	0.455*	0.270
Aversive Child	-0.532*	0.065	0.095

More at ease engagement behaviour by the child was significantly correlated with more at ease engagement behaviour from the other child ( $r_s=0.530$ ,  $N=21$ ,  $P=0.008$ ).

More curious engagement behaviours by the child showed was significantly correlated by curious engagement behaviours by the other child ( $r_s=0.455$ ,  $N=21$   $P=0.025$ ).

More aversive engagement behaviour by the child showed was significantly negatively correlated with less at ease engagement behaviour from the other child ( $r_s = -0.532$ ,  $N=21$ ,  $P=0.008$ ).

## **2. Do individuals (children or donkeys) behave differently when interacting with a conspecific as opposed to a heterospecific?**

### **Donkeys interacting with children**

The SPSS output identified that the sphericity estimate ( $\epsilon = 0.700$ ) was significant (Mauchly's test  $P = 0.020$ ) for the effect of behaviour category, so I corrected the d.f. using the Greenhouse-Geisser correction. The sphericity estimate ( $\epsilon = 0.986$ ) was not significant (Mauchly's test  $P = 0.909$ ) for the species  $\times$  behaviour category interaction, so I assumed sphericity.

### **Results**

#### Species

The GLM results showed that the total number of clicks did not differ significantly between donkeys with children and donkeys with other donkeys ( $F(1, 15) = 1.476$ ,  $P = 0.243$ ). Donkeys were equally active when with a child or another donkey.

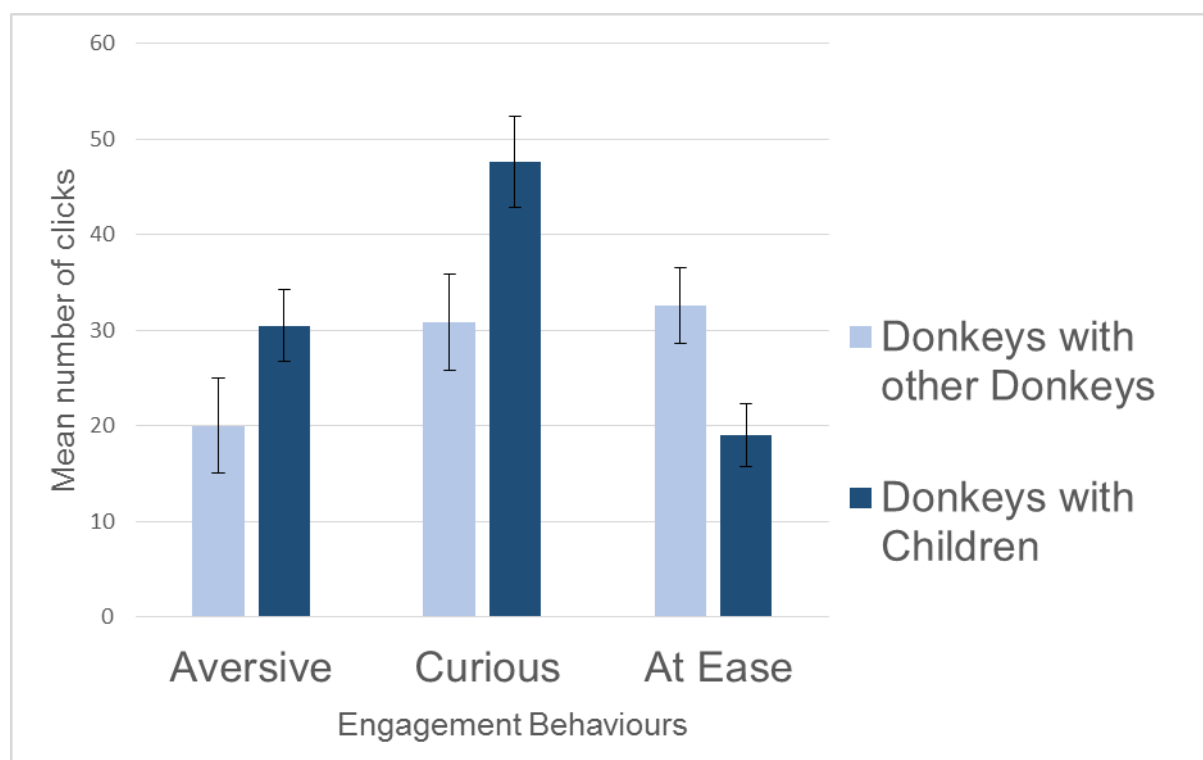
#### Engagement category

The GLM results showed that donkeys presented significantly more of some engagement behaviour types than others ( $F(1.400, 20.996) = 6.010$ ,  $P = 0.015$ ). Donkeys were generally more curious than at ease or aversive.

### The interaction between species and behaviour category

The distribution of a donkey's activity between at ease, curious and aversive differed significantly depending on whether they were interacting with another donkey or with a child ( $F(1.973, 29.600) = 10.130, P = 0.001$ ). Donkeys showed higher levels of curiosity and aversive behaviour and lower levels of at ease behaviour when they were with a child, compared to with another donkey (Fig. 3).

**Figure 3. Mean ( $\pm$  s.e.) aversive, curious and at ease engagement behaviours shown by donkeys when interacting with either a child or another donkey in a 10-minute interaction**



### **Children interacting with donkeys**

The SPSS output identified that the sphericity estimate ( $\epsilon = 0.856$ ) was significant (Mauchly's test  $P = 0.019$ ) for the effect of behaviour category, so I

corrected the d.f. using the Greenhouse-Geisser correction. The sphericity estimate ( $\epsilon = 0.841$ ) was also significant (Mauchly's test  $P = 0.011$ ) for the species  $\times$  behaviour category interaction, so I corrected the d.f. using the Greenhouse-Geisser correction.

## **Results**

### Species

The GLM results showed that the total number of clicks differed significantly between children with donkeys and children with other children ( $F(1, 44) = 7.488, P = 0.009$ ). Children were more active with other children than they were with donkeys.

### Engagement category

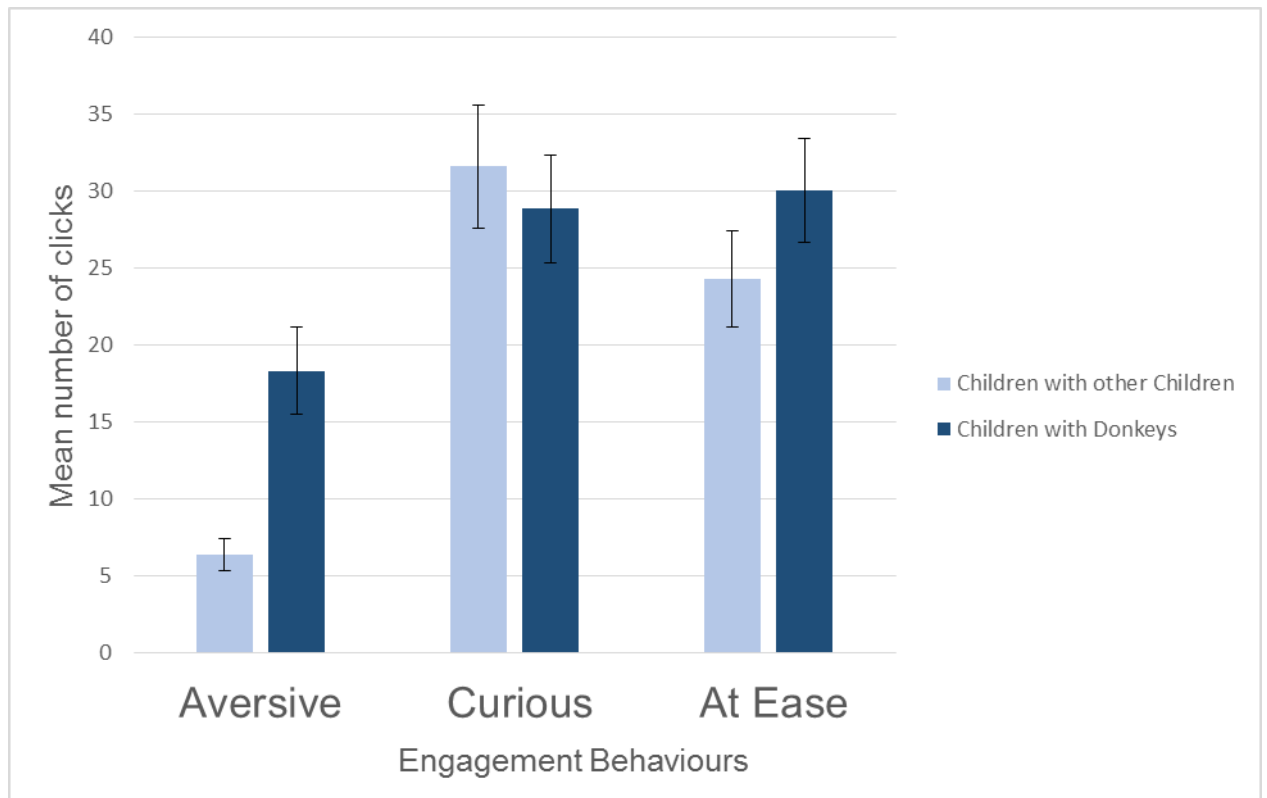
The GLM results showed that children presented significantly more of some engagement behaviour types than others ( $F(2, 88) = 14.546, P < 0.001$ ). Children were much more at ease and curious than they were aversive.

### The interaction between species and engagement category

The distribution of children's activity between at ease, curious and aversive differed significantly depending on whether they were interacting with another child or with a donkey ( $F(1.683, 74.038) = 3.461, P = 0.044$ ). Compared to when they interacted with another child, children were more aversive, slightly more at ease and slightly less curious when they interacted with a donkey.



**Figure 4. Mean ( $\pm$  s.e.) aversive, curious and at ease engagement behaviours shown by autistic children when interacting with either a donkey or another autistic child in a 10-minute interaction**



### **Discussion about the design, implementation and findings from the QET**

The QET was designed to measure engagement between autistic children and donkeys and to be flexible enough to be used in a variety of settings in response to the call from Wilson and Netting (2012:17). They suggested that new HAI tools should be designed to be used in numerous settings with a variety of participants to lend credibility to the field. The construction of the QET utilised a mixture of constructivist qualitative methodology and a more positivist approach. The content of the tool held more validity (Grinnell 1997:168 from Wilson and Netting 2012:16) because of the inclusion of parent and groom action researchers who were experts in their respective participant's

engagement behaviours. Thirteen autism or donkey professionals ensured the tool had good face validity by using their 'strong knowledge of the field' to support the accuracy of the lexicon describing donkey or child engagement (Grinnell 1997:168 from Wilson and Netting 2012:16). The seamless transfer from qualitative to quantitative methodology was enhanced when it became apparent that simple terms were preferable than more complex terminology to describe engagement.

To ensure that the tool was reliable enough to be used in other research designs, items were removed or clarified following the testing of QET with 19 volunteer raters. The statistic Fleiss Kappa confirmed levels of agreement that were statistically significant for both the child and donkey QET's.

The purpose of this research was to address two specific questions: (1) is the engagement behaviour of one partner correlated with that of the other partner in the same session? This would show whether individuals are actually responding to each other in the EAA sessions or if there were other variables causing the changes to the children reported in other research (see analysis of 15 studies presented in chapter 2), (2) do individuals (children or donkeys) behave differently when interacting with a conspecific as opposed to a heterospecific? This would show whether they are sensitive to which particular species they are interacting with, e.g. whether interacting with a donkey is any different for the autistic child than interacting with another child. This question identifies if engagement with donkeys or other equids is necessary to create the effects reported in EAA research (again, see analysis of 15 studies presented in chapter 2) or if they present the same engagement behaviour irrespective of species. Together, the findings from this inquiry can untangle some of the

variables involved in EAA research, begin to offer an understanding of the equid-human relationship and inform future project design.

The final test of the QET to answer the above questions was carried out from November to January 2017. The results confirmed that the QET is a useful tool to explore EAA design and can be utilised in numerous setting both for quantitative analysis and to compliment more tangential qualitative analysis.

The results from this research showed that when donkeys and children were interacting in a dyad there were three significant correlations. The more curious engagement behaviours the donkey showed, the more curious engagement behaviours the child showed. This is not particularly surprising because donkeys are quite overt in their engagement behaviour towards children and some children were motivated by the obvious interest of their partner donkeys. Two big furry ears or huge eyes focused on them was quite exciting for some children. The second highest engagement behaviour clicked for donkeys when they were with children was 'relaxed facing towards other' from the curious category. For children, the second highest engagement behaviour clicked when they were with a donkey was 'touching other' from the curious category. These two engagement behaviours highlighted a typical difference between species. Donkeys tend to be curious without the need to touch and children nearly always wanted to touch donkeys if they had scored high numbers of curious engagement behaviours.

Another correlation between donkeys and children was the more at ease engagement behaviour donkeys showed, the more curious engagement behaviour their partner child showed. For these dyads when donkeys were relaxed and not instigating responses, some children were able to relax

themselves and appeared to feel safer to be able explore the donkey. There was an obvious example of this with one particular dyad whereby the child would move away from the donkey if he focused on her too much. Once the donkey relaxed and stood close by but facing away from the child (from the at ease category), she began to explore his fur and sniff his neck.

An initially surprising result was that the more aversive engagement behaviour donkeys showed, the more at ease engagement behaviours children showed. However, on closer inspection of the video recordings of the sessions, there were at least 12 dyads whereby the donkey's aversive behaviour involved walking away from the child, which enabled the child to relax. The finding began to make sense in dyads where the children were happy to explore the donkey from a distance but didn't want them to get too close. If the donkey had 'purposefully moved away' (from the aversive category) they were more comfortable with more distance between them. In the same dyads the donkeys appeared to sense the child's unease and spontaneously walked away.

When donkeys were interacting with another donkey in a control dyad there was one significant correlation: the more at ease engagement behaviour the donkey showed, the more at ease engagement behaviour the other donkey showed. There was a certain novelty factor for the donkeys finding themselves in the arena with another donkey and not a child. It was unusual for them, so initially, at least 9 dyads displayed a mix of several aversive or curious behaviours but eventually settled into synchronous, at ease behaviours. 'Relaxed facing away from other' was the highest number of clicked items for donkeys when they were with other donkeys. This was from the 'at ease' category. This finding is consistent with the findings of DeGiorgio and DeGiorgio-Schoorl (2015:47) in relation to horses interacting with other horses. They suggest that 'for horses,

the understanding of a situation (which involves elaborating, gathering, and interpreting information) can be just as important as eating.’ This gathering of understanding in relation to others is what they describe as ‘an affiliative herd.’ Their findings could be seen when applied to donkeys as well as horses (King et al. 2016: 23). The donkeys in the Donkey Sanctuary showed affiliative behaviours when in their barn or in a field together and this often consisted of relaxing close to each other but facing in opposite directions.

When children were interacting with another child in the control dyad there were three significant correlations. First, the more at ease engagement behaviour the child showed, the more at ease engagement behaviour the other child showed. Second, the more curious engagement behaviours the child showed, the more curious engagement behaviours the other child showed. Both of these correlations were obvious in several interactions and showed some similarities to the at ease donkey-donkey correlation discussed above: children finding themselves in an arena with another child tended to go through a range of behaviours in the initial stages of the session and then settled into either at ease or curious behaviours. If one child instigated curious engagement behaviours, then the other child followed and the same happened with at ease behaviour. The third significant correlation was that the more aversive engagement one child showed, the less at ease engagement behaviour the other child showed. Children were affected by the aversive engagement behaviours of their dyad partner and appeared to find it unsettling in at least 11 dyads. If one purposefully avoided them, so the other walked or faced away.

These results showed that the engagement behaviour of one partner was often correlated with the engagement behaviour of the other partner in the same session. This was expected and indicated that there was sensitivity to each

other for both species. This finding reinforced that when conducting research on EAA, both participants' behaviours should be measured. The relationship between dyadic participants has a clear effect on outcomes of the session and this relationship should be considered for future research when seeking to measure if EAA is beneficial. The apparent beneficial outcomes would be dependent on the relationship and engagement behaviour between dyads during sessions.

The second question, do individuals (children or donkeys) behave differently when interacting with a conspecific as opposed to a heterospecific, was posed to explore if participants modify their behaviour depending on who they are interacting with, which addresses the importance of the interspecies relationship as opposed to other variables that surround EAA (discussed in chapter 2).

When donkeys were interacting with both children and other donkeys they showed more curious and at ease behaviours than aversive behaviours. This was not an unexpected finding because equids tend to avoid conflict behaviours and seek harmony when they are not being threatened (De Giorgio and De Giorgio Schoorl 2015:47). They did, however, show higher levels of aversion when they were with children compared to their engagement behaviour with other donkeys. Again this was not unexpected because aversion is a defence communication that sometimes escalates if it is not responded to by the other (de Waal 2017:95). Children were less likely to understand the intention of the donkey's behaviours and therefore may have reacted slower than other donkeys would in the same situation. A slight flick of the tail or gentle lift of the foot could easily be ignored by a child who was not familiar with donkeys' nuanced behaviours. Donkeys, however, are evolutionarily adapted to the social behaviour of other donkeys. They are more likely to perceive subtle behaviours

from members of their own species and would be able to react to it without the need for the other to display more overt or escalated aversive behaviours. Equally, donkeys showed higher levels of curiosity when they were with children as opposed to other donkeys and this may have been because they were curious about another species whose actions were not as discernible as members of their own species. Curious behaviours in the QET were not particularly emotionally valenced, and therefore it is plausible that their interest was more about seeking knowledge about something out of the ordinary rather than being inquisitive towards children in general. Finally, donkeys showed lower levels of at ease behaviour when they were with a child compared to when they were with another donkey, which supports the theory that they have a greater understanding of their own species' communication and intentions so would find it harder to relax around children than they would around other donkeys.

Children's overall activity in dyadic interactions was higher with other children than with donkeys. This difference was interesting. One possible explanation could be that all of the donkeys had reached maturity and some were well into middle age, so their behaviour reflected adult behaviour. Children, by their very nature, tend to be more active than adults. It would be interesting to see if children interacting with very young donkeys identified similar activity levels. Perhaps children's activity levels are higher overall and this could result in stimulating donkeys into more activity but this theory would need more investigation.

The distribution of children's activity between at ease, curious and aversive differed depending on whether they were interacting with another child or with a donkey. Like donkeys, children presented overall much more at ease and

curious engagement behaviours than they did aversive ones, but they were also more aversive when they were with donkeys than when they were with other children. Perhaps it is easier for children to tolerate the behaviours of other children that they are more familiar with, particularly their class mates who they would be habituated to. They would be less familiar with the donkey's behaviour than their classmates therefore would be more likely to move away quicker so that they can assess the situation from a distance. Interestingly, children were slightly more at ease when they were with donkeys than when they were with other children. It is well established that autistic children's friendship quality and frequency of contact are lower than their non-autistic peers (Petrina et al. 2014: 111). It is suggested that they may have less developed skills to understand reciprocal social interactions than their non-autistic peers (Merin et al. 2007:108). Perhaps the children that were more at ease with donkeys were not struggling to understand human social cues (see chapter 2 Wing and Gould 1979:11) but were either able to understand the body language of the donkeys or were not aroused enough to try to understand them. It would explain why they showed slightly more curious engagement behaviours with other children than when they were with donkeys. They had to work harder at understanding the behaviour of other children (as opposed to just tolerating or being habituated to them) and therefore displayed behaviours such as 'moving around passing interaction' and moving 'purposefully towards other.' These curious behaviours are active as opposed to the relaxed, at ease behaviours that children displayed more of when with donkeys.

Differences in engagement behaviours between species show that members of the dyad alter their behaviours to accommodate or respond to the other dyad partner. It lends weight to the argument that both species in EAA interactions



will alter the outcome but also that the same outcomes could not be achieved without the interspecies human-equid dyads. So donkeys as individuals do play a role in EAA and outcomes are dependent on this interspecies interaction and not just by other variables surrounding EAA such as venue or interaction with familiar adults.

### **Limitations of phase 2 findings**

Grazing behaviours in donkeys were common during the summer interactions in the grass pen. Grazing was the highest behaviour clicked in the donkey QET during phase 1 and, as mentioned above, some of this was sham grazing towards the child. Interactions inside did not provide the same opportunities for this naturalistic behaviour in donkeys, which could have affected the results.

Donkeys tend to graze and forage up to 14-16 hours per day and night (Smith and Pearson 2005:2) and as a species they are highly efficient at conserving water (Schoenecker 2016 et al. cited in Random and Kaczensky 2016:43).

These traits would indicate that a 10 or 15 minute break away from grazing or drinking would not have had a substantial physiological effect but it could have had a psychological effect for some or all of the donkey participants. Donkeys are trickle feeders (Burden 2011:589) and when they had access to grass in the summer sessions they certainly utilised it, both as food and as a displacement behaviour that may have given them time to process the session at their own pace. During the summer sessions, the donkeys were very close to their companions in the barn and could clearly see and hear them at all times. When they were in the sand arena it would have been slightly harder to hear and smell their herd mates and they could not see them unless they were interacting with

another donkey in the control condition. There was, however, a familiar human with them at all times. This is in contrast to the children who were surrounded by members of their own species, including familiar adults. Minero et al. (2015:1) designed the Animal Welfare Indicator (AWIN) specifically for donkeys and pointed out that 'good welfare' used to be measured in terms of the environment the donkeys lived in or the availability of resources, whereas modern welfare measurements include assessing each individual donkey's emotional and physiological state. An AWIN assessment was carried out by a member of Donkey Sanctuary staff for four of the donkeys whose interactions took place outside (chapter4) and they all scored high on welfare measurements (Burden 2016: unpublished).

The last chapter focused more on the qualitative character traits of some participant autistic children and donkeys and presents their stories intact. The autistic children and donkeys in this study were all very different characters and therefore collating their responses quantitatively has a reductive effect on their individualism.

Notwithstanding the above limitations of the phase 2 design, the results strongly supported that one member of the dyad has an effect on the outcomes for the other and that an interspecies dyad of equid and human brings about different outcomes compared to a conspecific dyad. The QET was designed to be used in a variety of settings and one suggestion for future use would be to look at the difference between outside environments with grass present and inside sand arena environments, both quantitatively and case by case.

### Summary of Main Findings

The engagement behaviour of one member of the dyad in EAA was correlated with that of the other member in the same session. This was the same if children were engaging with other children or if they were engaging with donkeys. It was also the same for donkeys interacting with children or other donkeys.

This is an important finding for future research because it implies that the outcome of each session would vary depending on the behaviour of the interaction partner the person of interest was paired with. Some EAA establishments have gone some way in addressing this by pairing children and equid characters who they feel would complement each other. It is debatable how successful these pairings are because, as demonstrated in chapter 5, some donkeys engaged completely differently to seemingly very similar children and vice versa.

Even if the focus of intended research was purely anthropocentric and the researchers had no interest in equid responses, differences in interspecies relationships should still be accounted for. Measuring the outcomes or benefits for children would be highly dependent on their relationship with their equid partner or indeed if they had the same partner for the duration of the research. Ignoring the individual equid's effect on the autistic child would be disregarding a hugely important variable. Repeatability of the research would not be reliable, although a large enough sample would arguably flatten the importance of

individual effects but risk magnifying the error in the study design (Kaplan et al. 2014: 342).

Some good EAA establishments have already noted the importance of not focusing on one member of a dyad over the other. Dean's role at Horse Haven UK (chapter 3) is to focus on the equids at all times and to raise any issues with his team member Suzanne, who focuses on the humans. They place small groups of human clients and their horses in the same spaces so that partnerships form spontaneously. They cautioned that their method does have its limitations because people are often drawn to horses that they perceive to be more attractive than others from their herd and this can lead to some difficulties. In that scenario, Dean and Suzanne use tact either to work as a group or merge the dyads together, using their expertise to consider the signals from the horses or the people. Many EAA practitioners spoke about the differences in how their individual equids presented depending on who they were with, but also noted that some humans arrived with clear ideas about who the equid should be. In this research, the children were partnered with donkeys by the grooms who knew them the best. As a result I am not suggesting that dyads would produce the same correlations if the research were to be repeated with other groups of children or adults, but I would nevertheless expect some correlations to exist between dyads in EAA scenarios because one partner clearly affects the other. Wuang et al. (2010: 113) found that a robotic horse simulator produced equally good physical improvements to autistic children as actual horse riding (see chapter 2). This shows that if the goal of the EAA is for physiotherapy and not emotional engagement, the quality of engagement between humans and equids is less important. The simulator offers a potential alternative to riding equids if

their coveted role is purely mechanical but even with a robotic horse, I would expect the behaviour of either participant to correlate with the other.

Another finding was that individuals (children or donkeys) engage differently when interacting with a conspecific as opposed to a heterospecific. This is not a particularly surprising finding because each species' communication repertoire has evolved to accommodate communication with their own species. I

presented the ideas of Temple Grandin in chapter 2, an autistic woman who worked in the cattle industry. Grandin felt that autistic people were exceptions to the norm because they were able to understand other animals better than they could humans. She felt that she was able to understand cows and horses as a direct result of her autistic perception (Grandin 1988:36; Grandin 1995:4). She later modified her argument to 'some' autistic people who can understand animals better and proposed that she was more comfortable around other animals than humans. The findings from the QET (chapter 5) showed that both species engaged differently when interacting with a conspecific as opposed to a heterospecific. However, looking at the results in detail, they did not support autistic children having a greater understanding of donkeys than other children. In fact, their engagement style towards donkeys was generally more reactive than the donkeys were. Donkeys, on the other hand, seemed able to modify their engagement behaviours to accommodate the children. They were much less physically demonstrative when they were with children than when they were with other donkeys. They were more reflective of von Uexkull's prose regarding awareness of another's Umwelt: 'To do so, we must first blow, in fancy, a soap bubble around each creature to represent its own world, filled with the perceptions which it alone knows. When we ourselves then step into one of these bubbles, the familiar meadow is transformed' (von Uexkull 1934:319).

Donkeys seemed to be curious towards the children in a way that the children didn't always reflect back. They seemed to know that the children were smaller and more fragile than their donkey companions and modified their engagement behaviour accordingly. This behaviour could have been a result of the donkeys being adults, compared to autistic children who had not yet developed adult knowledge. Yet it still showed clear modification of engagement behaviour towards another and lends more weight to the argument that equid responses should be measured as well as humans in EAA research. Running Deer from The Red Horse EAA centre (chapter 3) was reported to alter her behaviour to accommodate humans, and this research provides evidence of donkeys doing the same.

The more qualitative findings presented in this thesis showed that there is a temptation to believe that equids possess something spiritual that can bring about measurable changes in people. Whilst I observed a great many examples of human–equid interactions that were seemingly positive for both parties, they were specific to the individuals involved and it would have been very difficult to generalise these benefits to a wider population such as autistic children as a whole. Some parents were affected by their prior knowledge of EAA that they had gleaned from various sources and this was sometimes troubling. Chapter 3 showed that the capacity for human-like altruism and empathy in equids, popularised by some EAA establishments and the media, is not well supported. To quote Vanessa (chapter 3), 'why would another species have evolved traits to act solely to meet human needs?' If equid behaviours that look at first glance like empathy or altruism are seen, as de Waal (2016) suggests, as the origins of empathic perspective taking, a more probable explanation emerges. He argues that 'empathy is a biological imperative' (de Waal 2016:132) that stems from

maternal behaviour towards offspring. He suggests that whether any species (including humans) has developed the ability to read other's minds is debatable. What they are more likely responding to, both consciously and unconsciously, are physical signals from the other's body. However, the ability to care about another mind (empathy) or act in a way to help them even though it holds no immediate advantage to the helper (altruism) is not a simple question of can they or can't they. It is context-driven and dependent on the individual's genetic makeup, personal history and individual character. Many of the equids that I observed for this thesis did not walk freely over to their dyad partners from their own pastures; they were led over to meet their partners. Therefore, if they showed empathic perspective-taking, albeit from an equid perspective, it didn't really happen spontaneously without human intervention. Anthropomorphic metaphors may be authentic to one person but could equally mislead others. Using words such as empathy and altruism risk aggrandising the outcomes of interactions – interactions that Ben (chapter 3) remarked are 'pretty fantastic in themselves' without unsubstantiated add-ons. The confusing and ambiguous language identified in chapter 3 appears to have come about because the role of equids in EAA is blurred. In some ways they are tools (see Coulter 2016:81, chapter 3), there to deliver healing to humans in need. This would be acceptable to those who are happy with a human hegemonic approach to other animal relationships. For others, borrowing equids' spiritual strengths is acceptable if they give them willingly. Animist societies often observe humans as part of a greater web of life and the other animals that they come across are not above or below them. Matamonasa- Bennet (2018: np) suggests that in her Native American culture, equids and humans sit within the 'spider web' of life where each member should respect and honour fellow Earth inhabitants and

ensure a balance. For her, EAA should be about reciprocity within a relationship, ensuring that both members of the dyad gain some tangible benefit.

The theoretical position of EAA establishments can have an effect on the human client's experience. Parent (2018: np) shared how one of her clients saw her 'use' of horses in the same way that the client was 'used' in an abusive relationship. She felt that the EAA staff were complicit in forcing horses to perform, thus acting like perpetrators. This very powerful account acts as a reminder of what message we are giving to clients by the way the equids are utilised in this field. The control versus freedom dichotomy plays a large part because humans decide what to do with 'their' equids and this should be rationalised and embedded in a good practice model within set parameters that offer both the equid and the client choices about their interaction. The client that Parent (2018) referred to recognised that equids are as complex and individual as the humans who take part in EAA and their willingness should not be assumed.

The findings from the narrative analysis and observation section of the thesis (chapter 4) unearthed a more in-depth focus on EAA from the perspective of both humans and equids. The four autistic children and group of autistic adults that featured in the presented stories had a common communication trait. They were not verbal communicators and did not rely on others' spoken language to navigate their lives. This was a commonality that they shared with the donkeys that were introduced in the stories. Watching these interspecies interactions put me in mind of Marcus Baynes Rock (2015:82), who proposed that humans who rely on language have a 'communication ineptitude' compared to other animals. In many ways, verbal language has accelerated human learning and



understanding and enabled huge technological advances. It has given us the means to understand phenomena. Yet Baynes Rock's words resonated with me so often when I was watching interactions between nonverbal participants. Autistic children often communicated with their whole body in the same way as the donkeys. It was often difficult to fathom what was going on, particularly when the interactions were so subtle. Some participants were motivated and curious to engage intersubjectively with the donkey and tended to look towards the donkey's head or eyes, but they also used their bodies to simply lean against the donkey's body. A striking symmetry appeared between some donkeys and their human partners. Being free from verbal speech and the need for eye contact when communicating meant that dyads could explore each other with all of their senses. Haraway (2008) reflected on the use of language 'Especially for thinking about world making and intelligent intra-action among beings like dogs and donkeys, to ask if their cognitive, communicative skills do or do not qualify for the imprimatur of language is to fall into a dangerous trap (2008:234). In narrating the stories of children and donkeys, there was a risk of using the *language* understood by humans in a way that was misrepresentative of the intra-action between dyads. Some of the nuanced aspects of the intra-species relationships were certainly unknown, such as smell. And smell played a big part for both donkeys and children, coupled with using noses as a tactile organ to bury into the body or face of the other. Whilst I was watching a child-donkey interaction with one of the grooms, she used the phrase 'up close and personal,' a description that summed up the scene before us. There was an obvious freedom from social boundaries regarding personal space. Some donkeys and children tolerated quite a lot of close proximity exploration from the

other but when their space boundary was encroached upon, the other often physically picked up on this and soundlessly stepped back.

In chapter 2, I presented an observation by Haraway (2008) who cited an 'off-category' friendship between a German Shepherd dog and an 'old in the tooth' donkey who had to 'craft atypical ways to interpret each other's specific fluencies and to reinvent their own repertoires through affective semiotic intra-actions' (Haraway 2008:234). The narrative analysis and narrative ethology stories concurred with this. Each dyad interacted in their own unique way that 'adopted each other's behavioural bits, and generally [made] things happen that did not fit anybody's idea of function...' (Haraway 2008:235). The unfolding relationships in the five stories were layered with complexity and discovering 'benefits' became an elusive task, particularly when considering communication as a benefit because not all communication was positively valenced. Ray and Rubin communicated and took turns to do so but it was to show the other that they were not welcome. Ray physically pushed his donkey partner Rubin several times, to try and remove him from where he was sat. For his part, Rubin didn't retaliate so much as wait for his chance to reclaim the spot of ground that he wanted to stand on as soon as the child moved. This particular dyad presented an interesting example of the blurred goals of EAA, where outcomes may not necessarily be positive. If the desired goal of their EAA session was simply social-engagement, then Ray and Rubin would have met it. Ray's parents were aware that he did not interact spontaneously with anyone socially, unless he wanted them to provide something for him, so in that sense his spontaneous interactions with Rubin could have been viewed as positive. However, Ray's behaviour did not show a particularly happy child and I'm not sure his personal feelings were positive during the sessions. It was not

particularly positive for Rubin, the donkey either, who showed signs of stress that signalled the end of their session.

Another example of where EAA was not so positive was that many of the participating autistic children had an aversion to loud noises, so when the donkeys in the barn brayed, they covered their ears. Two of parents felt that their children coped with their hearing sensitivity much better when they were with the donkeys compared to other situations. All observers noted that loud brays caused a considerable distraction to the children and it would have been interesting to observe them over a much longer period to see if their sensitivity lessened or if it became too much for them to continue. In some ways toleration of noise was a positive outcome; even a benefit. Yet for the children in question, the actual experience of the loud noise was not positive.

For Ora, her vocal and motor stereotypies actually found a new manifestation during interactions with Otis. It was not because of stress, but as a result of it being a default behaviour common to when something new piqued her interest. Her touching of the donkey's back to instigate a shiver response became more and more frequent as the weeks passed. Her family were able to identify how her more challenging behaviours came about and attributed it to her obsessive-compulsive tendencies. The family were able to spot the early signs of this type of behaviour in other situations and in some circumstances were able to be proactive in stopping it developing. They also learnt a great deal about their daughter by watching her with Otis. Again, this EAA interaction did not result in a changed child so much as a better-understood child. Otis learned to habituate to her touching on the whole, but did move away a few times during the latter sessions. He was also able to divert her from her behaviours at times, although whether this was conscious or not is hard to say. He spent a great deal of the

session in close proximity to Ora and slowly grazed towards her if she moved away. The sessions brought Otis additional grass and he was particularly curious about Ora's behaviours.

Three children, Ty, Ora and Ray, all presented mimicry behaviours that came as a complete surprise to their parents. Hamilton (2008:1) reported that 'current evidence suggests that children with autism are able to understand and emulate goal directed actions, but may have specific impairments in automatic mimicry of actions without goals.' My research did not concur with the evidence highlighted by Hamilton. All three children spontaneously mimicked the donkeys without any goal-specific behaviour. Ray watched Rubin eat grass, then knelt down and did the same. It would have been very difficult to suggest a goal-directed behaviour to Ray because he did not follow instructions, so the mimicry was quite a shock to his parents and to the observers. There appeared to be something about the donkeys that motivated the children to mimic their behaviour. Perhaps they were trying to understand them or were just simply intrigued by the novelty of the situation. Ty became particularly interested in Tobias's stamping motions when the donkey was bothered by flies. He found stamping his own leg in synchrony with Tobias very funny and even tried to instigate Tobias to stamp when the donkey was not doing it. Again, de Waal came to mind because he had proposed the Bonding- and Identification-based Observational Learning (BIOL) Model that offered a probable explanation (de Waal 20016:259). BIOL rejects the idea of learning based on incentives and replaces it with a theory based on social connectedness, whereby 'animals strive to act like others, especially others whom they trust and feel close to' (de Waal 20016:259). Ty and Ora did appear to be very comfortable in the presence of their donkey partners. Although trust and closeness are difficult

concepts to observe and measure, Ty, Ora and Ray did not appear to be at all frightened of the donkeys. Ray did not look like he was fond of Rubin but did have quite a clear communication interaction with him and was not afraid to physically try to move him. Rubin made several attempts to communicate with Ray during their sessions and showed stress signs when the child rebuffed his advances. The BIOL fitted as an explanation for the mimicry of the children because it explained their behaviours as social connectedness with the donkeys. They did not appear to have obvious goals for the interactions with the donkeys, nor were they driven by material rewards. Both the children and the donkeys were socially connected during the interactions, even if the connections could not always be described as personally beneficial. Parents agreed that they benefitted from observing their children, in that they were able to observe developmental milestones that could be recounted to professionals. In contrast, the interactions did not always have immediate benefits for the children. The exception to this was Sam and Simon, who spent a great deal of their sessions in very close contact, looking relaxed and comfortable in each other's company. Sam's family learnt about him from watching the observations, but they also said just how happy he was to come to the centre each week.

A common theme emerged early on with all of the parents. They wanted something for their children to call their own, a hobby or interest to break their routines. Many of the other activities that these children took part in were adult-led and rarely involved spending time with another person. EAA provided parents with the opportunity to see their children through a new lens of social interaction. According to their care staff, the majority of the adults we observed at the Italian Donkey sanctuary also interacted socially with the donkeys in a way that they didn't with their peers (pers. comm.). The level of interaction could

be attributed to novelty; a longer study would identify if this high level of interaction diminished over time. Grace, who I accompanied to the mental health hospital in Italy, didn't think it would. She had seen the same adults over a few months and their interest was always high when Chico arrived. Equally, some grooms at Apple Orchard were able to reel off numerous examples of children who had been visiting their donkeys over years and their interest never faltered. What they noticed was that some people were drawn to the 'essence' of individual donkeys, whereas others just had a passing interest.

Grooms reported that their understanding of their donkeys increased significantly when they were given the opportunity to focus solely on them and not on the children. They recognised stress signals and how individual donkeys displayed their emotional state in different ways. It came as a surprise that donkeys often slept immediately after encounters, showing just how exhausting EAA can be for them. Parents often reported the same thing regarding their children, who were sleepy and relaxed on their journeys home.

An important observation made by the grooms was how restricting head collars can be. Leaving donkeys free to approach or retreat at will was a powerful discovery for the grooms. Watching Otis without a head collar reminded his groom that decisions that she made for him, possibly against his will, should be weighed up against the importance of what she was asking. If the head collar was to enable him to benefit from good foot health care carried out safely, then she thought it acceptable. If she was asking him to interact with children, she felt that he needed to have the opportunity to say no by providing egress without restriction. Interactions that enabled participants to engage with each other on their own terms (without a head collar) within the realms of practicality and safety meant that donkeys like Otis were able to show consent or non-

consent much easier than if they were restricted. This practice was later included in a new model at the Donkey Sanctuary interaction centres. When children spontaneously ran underneath the donkeys during interactions, a head collar and lead rope would not have made the situation any safer. In both of these specific circumstances with different donkeys, it was the groom's swift intervention that startled the donkeys and not the child's behaviour. Although the children clearly surprised them, neither donkey hurt the children. Simon actually lifted his legs higher so that he would not step on Sam. The grooms learnt to trust the donkeys more by giving them the opportunity to show their affiliative nature and, as a consequence, gained a greater respect for the agency of the donkeys that they cared for. This corroborated Van Dooren's (2014: 9) theory that I presented in the Introduction. Knowing donkeys better, by focusing on who they are, formed new 'accountabilities' and enabled informed decisions about their wellbeing.

### **Logistic Constraints and Limitations**

Although the Donkey Sanctuary were very accommodating as a host for my research at their interaction centres, a few operational issues arose that were common to many other EAA centres that I visited. Autistic children were not always able to 'fit in' with the expectations of humans attempting to uphold the centre's health and safety policy. In order to keep humans and equids safe there are certain rules and expectations that centre staff are responsible for, either directly or by asking other humans to abide by them. Whilst it is seemingly acceptable, and standard practice, to restrict the movement of equids by means of gates, fences and sometimes head collars, it is not always

acceptable to do the same with children. It would be highly frowned upon to restrain the child by tying them to a post or holding on to them by a rope, even though, as Ray demonstrated, they sometimes run away and can present unsafe behaviour. Staff had made several concessions when Ray climbed into Rubin's pen inside the centre. The pen was not meant for an interaction because it was too small and was usually used for grooming or as a waiting area for donkeys who were due to go into the arena. The pen had straw, water and a mineral lick as well as a rectangle of bedding material to absorb urine. When Ray climbed into the pen his parents asked for the session to be held where he had seated himself, which caused a conflict with staff. Ray had removed his shoes and explored Rubin's water and his groom felt that that the child should be led to the outside pen where Rubin was waiting. Ray's parents attempted to lure him out but to no avail, so requested that the session take place in the pen where Ray was comfortable. Rubin was led in and Ray remained happy for a while. Another conflict arose when Ray sat down very close to Rubin's feet, which presented another concern for staff. Ray's parents were not worried about Rubin stepping on their son because they had learnt to trust him. The staff were not content to allow the situation to continue and a groom moved next to Ray and Rubin. The conflict of what was considered safe and what was considered acceptable for this child was not particularly clear to either party. The risk assessment prevailed and Ray was protected from having his feet accidentally stood on when the groom stood in between him and the donkey.

In some cases, adults who were either in charge of the session or supporting the human interrupted the flow unwittingly. This happened during observations at the Donkey Sanctuary in both the UK and Italy, but also in other EAA centres



that I visited. Trying to intervene to create engagement between dyads or distract participants from perceived unsafe behaviours rarely enhanced the session. Balancing health and safety with flowing interactions was not the only source of interruptions. Some of the carers who were stood with the human participants that they were supporting could not resist touching the donkeys. They were as drawn to their neotenic features as I observed many people are, and as a result found it difficult to ignore them. Staff who 'knew' the donkeys or parents who 'knew' their children sometimes had expectations of what their participants should be doing and found it difficult to let the sessions flow. There were a few comments that 'nothing is happening' that explained why they felt compelled to make something happen. Without fail their interventions disrupted the interaction between the dyad. In sessions where very little overt engagement took place, forcing the issue tended to have the opposite effect. This was an important operational issue and required explicit instructions for observers to leave the interaction to happen spontaneously, because I held no expectations of the outcome. Action research required operational agreement from all 'action researchers' and part of their role was to let the interactions happen unimpeded and to simply record what they saw. As the weeks passed by and stakeholder adults became accustomed to just watching and not interrupting, the engagement flowed much more naturally. Some parents commented that it was good for them to just watch and wait because they hadn't appreciated how much processing time their children needed. Grooms also commented that it was nice that their donkeys were not obliged to provide a service within a set time scale but could be left to engage or not as they wished.

Another important operational issue was in relation to the interaction space. During my visit to the Italian centre I found that the outdoor, rural location was conducive to relaxation and positive interactions. Equally, the somewhat unusual sunny UK summer of 2016 produced similar results. Being outdoors in a naturalistic environment was good for both the children and the donkeys. Donkeys being within the smell, hearing and visual range of other donkeys addressed good husbandry recommendations (ISES 2018:11) but also enabled them to benefit from natural behaviours such as ground grazing. When the interactions were moved to an indoor arena setting because of the typically adverse January weather in the UK, the outdoor benefits were lost. This raised the question of how important or averse the loss of grazing and other outdoor environmental resources are for welfare and would be an important area for equid wellbeing research going forwards.

It has been proposed that children also benefit from time in a natural outdoor environment (see Louv 2009:10, Moore 2009:10). Parents reported that their children often preferred being outdoors in the natural environment and coped with sensory stimuli much better when they were not indoors. Future research would benefit from testing specific welfare markers based on an indoor or outdoor environment and how that balances with operational practice in EAA settings. Being outdoors could be beneficial for many different reasons such as natural light, lack of sound overload, clear air or large open spaces. Careful interaction centre designs could enable some benefits of being outdoors by building spaces that include lessons from nature. Biophillic design (Kellert 2008) is an architectural style that showcases buildings that bring nature into design. They advocate floor-to-ceiling glass walls, plants and trees visible and often growing inside and outside of buildings and access to covered but open spaces.

The mental health hospital in Italy showed that a simple balcony attached to a building with far-reaching views offered a good alternative to an indoor arena and could also be described as biophillic in design. There is minimal research focused on good environments for equids working in EAA and future research would do well to combine biophillic design with operational practicality though the lens of human and equid welfare requirements.

The National Autistic Society of Great Britain also focuses on ideal environments for autistic people. They have been running a campaign for several years that encourages business and public spaces to make changes to their existing buildings or future building designs that will ‘open up spaces to autistic people and their families’ (NAS 2018:np). These changes include access to safe, quiet spaces, and improved and easy access without encountering crowds and natural light. Biophillic designs cater for both autistic children and donkey needs and would be beneficial for both species in an EAA scenario.

Outdoor spaces seem to be preferable for equids because they use their evolutionarily adapted behaviours such as a long periods of foraging and grazing as mentioned above. Although it could be argued that equids have not evolved to work as EAA partners (Tarka 2018: np), their role in this research did not compromise their welfare and in fact provided some of them with an opportunity to explore another species – an opportunity that, as the results of chapters 4 and 5 show, was taken up by many of the curious donkeys.

Domesticated donkeys may satisfy an urge for children to experience ‘the innately emotional affiliation of human beings to other living organisms’ (Kellert and Wilson 1993:32). EAA provides a good opportunity for emotional affiliation between species if both participants are able to access each other without

impediment. Some domesticated equids can experience boredom because they are limited in how far they can travel to carry out evolutionarily adapted behaviour such as long periods of foraging (Boyd 1991 cited in Ransom and Kaczensky 2016:301). The Donkey Sanctuary in the UK houses just over 6000 equids at any one time and some of these individuals have spent a great deal of time with people before they arrived at the sanctuary. EAA provides these donkeys with the opportunity to interact with humans, something that they have been familiar with for most of their lives. Donkeys who had a positive relationship with their human carers for many years prior to arriving at the sanctuary could find spending time in larger herds with minimal grooming from humans quite stressful. I saw many examples of donkeys waiting to enter into interactions with humans both in Italy and in the UK and some appeared to be highly motivated to seek out interpersonal relationships. The Donkey Sanctuary and other EAA establishments that I visited ensured that the physical health needs of their equids were well met and they all had plenty of time with their fellow equids. Feral equids eat, drink and rest with other equids like domesticated ones, but feral equids also seek mates, reproduce, raise foals, fight, appease, move to other herds and walk miles to find resources (de Waal 2018: np). Domesticated equids are often unable to perform all of these behaviours, and thus can become bored. Good husbandry results in maintained homeostasis but equids and other living beings require a body that is constantly striving to achieve homeostasis so that they don't experience boredom. This process is defined as allostasis: 'the process of maintaining homeostasis through the adaptive change of the organism's internal environment to meet perceived and anticipated demands' (Zsoldos and Ebmeier 2016: 27). EAA can provide the positive demands that facilitates allostasis by providing enrichment

for domesticated donkeys. Many informants agreed that EAA can be a good thing for equids providing it was set within standardised welfare parameters. Equids can and do live without people in an adequately resourced environment, but that doesn't mean that they are naturally averse to being with people. The process of domesticating donkeys spanned over 5000 years (Beja-Pereira et al. 2004:1781), with donkeys coexisting alongside humans for all of that time. Donkeys who responded favourably to domestication would have been the ones chosen to breed, and in this way over hundreds of generations they were selectively bred to coexist adequately with (and for) humans. Providing the coexistence being asked of them in EAA enables choice and consent, most informants thought that it could be a positive activity for them (see chapter 3). Choice and consent were considered difficult to measure, but that doesn't mean that they should be ignored. Dru (chapter 3) referred to the willingness of her working equids as a 'Golden Goose', something that should be cherished. This, she believed, ensured that her staff and volunteers understood that the equids' consent was fragile and not to be assumed. Consent was considered something more than the equid not doing something. The people asking donkeys for consent may not have the skills to understand their body language and some of the donkeys may have been trained in a way that disguises that they are non-consenting. Consent is a constant process of assessment and cross-assessment by skilled people who have a good knowledge of the individual characters of each donkey. Consent is not tokenistic and should be given the due care and attention necessary to get an accurate assessment of the equid's willingness to participate, as suggested in the ethical guidance of the ASA (Association of Social Anthropologists of the UK and the Commonwealth 2011). The same applies to choice. Humans make choices based on very different

criteria from equids. Choice is cultural and related to the capacity of the individual to make safe choices for themselves. Naturally, equids tend to live in fixed or transient affiliative herds who bunch together, copy each other's movements, particularly in relation to perceived threats, and rarely collide with each other when in flight (de Waal 2018:np). Their choices are governed by their evolutionarily adapted behaviours. These instincts have developed for their safety, even in the case of adult male asses, who spend some of their time alone when not seeking a mate. Choices are made through their instinctive, evolutionary adaptations and their own character developed over their life span. If donkeys were given choices about interacting with humans in EAA, their responses may differ depending on whether there were other donkeys present. Informants agreed that not all equids are suitable for EAA and true choice and consent assessments would at least attempt to identify the less suitable ones.

Another finding revealed that trying to facilitate or force engagement using human ideas of food rewards (carrots) changed the interest and motivation of the donkeys and actually caused problems for the children. Donkeys became focused on the food and were only interested in eating as opposed to interacting. Equids don't understand feeding as a reward or a shared pleasurable act. They have evolved with plentiful food that is available at all times (Keison 2018: np). Trying to force interaction or engagement with food is a mistake based on our own human perception of food.

This research found that riding the donkeys was not particularly good for interpersonal relationships either and took away the agency of the donkeys. One child preferred riding to ground work and this could have inadvertently given him the wrong impression about who the donkey was and what he was being used for. He engaged with the donkey much more on the ground than

when he was on his back and this was the same for the majority of children that I saw riding. Ground work enabled both participants to observe each other's physical responses in relation to each other and facilitated a more intense emotional interaction than riding could possibly do.

### **Questions for further enquiry**

The donkeys in this research were adults, already familiar and trained with EAA. It would be interesting to see the extent of behaviour modification of untrained donkeys who were less familiar with humans. The extent and method for training equids for EAA varied between different centres. Temperament testing was rarely administered and each establishment appeared to have their own system for assessing the suitability of their equids to this type of work. It would be interesting to explore how much spontaneous behaviour the equids showed towards the humans, over how much they were trained or habituated to do so. It would be unethical to test feral or unhandled donkeys interacting with children but as a concept, it provides a comparative scenario to question some of the presented EAA literature's claims about the benevolent advances of equids towards people. If training and habituation are managed within welfare parameters and regular consent and choices are assessed, donkeys can benefit from their interactions. However, EAA promotional literature should stray away from making unsubstantiated claims about equids' 'yearnings' to facilitate humans and concentrate on the positive things that can and do happen in the right circumstances.

It would be interesting to observe if younger donkeys partnered with children would modify their behaviour in the same way as the adult ones, as suggested

in chapter 5. Or if foals were partnered with non-vulnerable and consenting adult humans, would their behaviour modification be the same as the results of this research with adult donkeys? Equid modification of behaviours could be dependent on their age and maturity as well as their habituation to EAA, not because they are equids per se.

Only prosocial donkeys were used in this research. A question that I mulled over and over was whether it would be ethical to try and habituate donkeys who did not show prosocial behaviour towards humans. If they had received poor husbandry or even abusive relationships in their past, would it be appropriate to introduce them to positive relationships with humans? If I am concluding that EAA can be a good thing for donkeys, which I am, then could 'EAA training' with sensitive grooms be used as a way of slowly habituating donkeys to more positive interactions so that, eventually, their stress would be lowered when they are with other humans? Or should we just leave them alone because we may not have the skills necessary to read how much stress EAA would cause them? This is a question that would need to be explored on a case-by-case basis, but I often heard and saw examples of equids whose wellbeing improved significantly once they moved from other equestrian activities into well-manged EAA programmes.

The donkeys in this research were nearly all gelded males. The gender of feral equids often determines some of their behaviours (Boyd et al. 2016:7). Young males play a great deal with each other before they reach sexual maturity and even then they often form bachelor groups that continue play behaviour (de Waal 2017:95). I wondered if the gender and the practice of gelding donkeys affected their level of curiosity in this research. Mares are used in some EAA centres but not as much as geldings and I did not come across any stallions in



this research. Perhaps male equids are generally more suitable for EAA; again this would need further exploration.

None of the equids in the centres that I visited were bred specifically for EAA or had only worked in that field. The vast majority were rescued from less desirable situations or other equestrian disciplines. These equids were workers in the sense that they provided a service to humans, yet unlike their human counterparts they did not have workers' rights (see Coulter 2016:59, chapter 2). The Donkey Sanctuary simply retire their donkeys when they start to show signs that EAA is too tiring or if their health fails. They live out the rest of their days with their herd companions and their wellbeing and health are continually monitored. Some working equids in EAA have to stop their work prematurely and a few of the centres that I visited continued to care for their equids in the same way as the Donkey Sanctuary or rehomed them if it was in their best interests (see Horse Haven, chapter 3). This is not always the case. Parent (2018: np) shared a story of a rescued and very unhappy horse that was brought to the EAA centre where she worked. She worked tirelessly with the horse until he began to respond to her approaches and eventually followed her around the yard at liberty. He often stood outside the open-air arena where she worked with clients and hung his head over the rails to try and get inside. One day she opened the gate and he entered when there were clients with her and he approached each of them individually, smelling and checking them out. She said that he became a 'different horse overnight.' He enjoyed his work and simply walked away when he had had enough. The owner of the centre was so impressed with this former show-jumper that she decided to sell him because he was 'so recovered.' The heartbroken Parent could not raise the money to buy him and he was sold. He lasted a very short time with his new owner, who

decided that he was too dangerous and so sold him for meat. Parent shared the story because she wanted to raise the issue of ethical work for equids (2018: np). If we are not breeding equids for EAA and are offering them the opportunity for this work for better welfare, then should centres be compelled to guarantee a fair retirement for them to compensate them for their work? Clients who use EAA centres should be aware of the agency and life span of their new equid partners. It would be interesting to assess if concentrating on the equid's agency and 'knowing them' as Van Dooren (2014:9) suggested would change outcomes of further sessions. It is tempting to see EAA as an activity or enriching experience for the vulnerable humans who partner with the equids but could equid agency be better understood if carers of vulnerable humans were informed as part of the sessions? Would this lead to more realistic expectations of what EAA can achieve and the responsibilities of human and equid carers? There was a similar issue with the autistic children who were brought to centres by their schools rather than their parents. There was a great deal of factual, labelled information gleaned about the children before the sessions and the staff that brought them were very knowledgeable about them. However, grooms learnt a great deal from parents during the summer 2016 observations. They were able to discuss what the parents saw and they came to understand their donkeys better by having interactive dialogues with interested parents. The individual agency of each child became more and more apparent when seen through the lens of a lived experience rather than factual information of the child's perceived disability. Parents shared their hopes and aspirations for their children and explained where they felt the donkeys fitted in and grooms were able to balance that with a longer-term (and sometimes more realistic) perspective.

Although there are plenty of case studies showing how EAA has affected individuals, it would be equally interesting to explore whether monitoring the engagement of EAA would be more revealing if grooms did not have any diagnostic information about the child and parents had no knowledge about the donkey's character before the interactions. This would enable both sets of carers to assess the interactions in the moment and not consider the holy grail of 'benefits.' Once humans and other species begin to understand each other, at whatever level, Gruin (2015:79) argues, their perception is altered. She calls this 'entangled empathy.' 'Once we are attuned to [other species]...we can begin to understand our relationships with and responsibilities to many others differently.' A large-scale study that analysed the dialogue between human and equid participant carers, combined with the QET, would likely reinforce that 'benefits' of EAA are entirely reliant on how and who is asking the question. Observing an interspecies, non-verbal relationship developing is much more informative than trying to measure the benefits.

## **Conclusion**

The relationship between autistic children and donkeys relies on the uniqueness of each character on any given day. Autism is not a homogeneous description of a person, and whether it is considered a diversity or a diagnosis, it still translates to each person being unique. Both humans and donkeys are individual characters made up by their culture, family group norms, peer norms, genetic makeup, individual histories and individual personalities. How they will relate to one another is very hard to predict and therefore requires constant monitoring for both welfare and consent.

Autistic children and donkeys were shown to be a compatible coupling because some of their traits were similar and complemented their interactions. Both require a calm environment to be able to focus, smooth and fluid movements from others around them and as much time as they need to process information. The participants in this research did not rely on verbal instructions so communication from others needed to be augmentative and based on knowledge of each individual. The prerequisites for donkey welfare and needs of children with autism were very similar. Welfare parameters describe conditions that are considered appropriate for EAA for both species. These include ensuring both the children and the donkeys are equally gaining from the experience. EAA is not a lifesaving medical intervention therefore it should only be considered as a practice for those children who show a willingness towards interactions with other species. Equally, some donkeys may find certain individuals or environments distressing and this should be respected. Good husbandry is essential to good welfare but providing an enriching life for domesticated equids is equally essential to their wellbeing. Autistic children are often limited to where they can go to feel relaxed and able to express their own natural behaviours. EAA can offer a positive opportunity for both species to engage in social relationships. The management of these sessions is the responsibility of their carers who are tasked with weighing up safety with enabling the dyads to have the freedom to form their own unique relationships. The interactions in this research were about a dyad of a human and a donkey and the presumption that one partner will have a positive effect on the other. The findings of this research showed that indeed both partners were affected by the other and many of those interactions were considered positive, but not all. The adult male donkey participants in this research significantly modified their

behaviour to accommodate the children. Their behaviour was different when they were with other donkeys showing how much children affected them in EAA sessions. Children were also affected by the other partner in the dyad. They were generally more aversive towards donkeys than they were to other children but were able to relax more when with donkeys. This is both the crux and the mystery of EAA. It is the understanding of who the other is and the resulting quality of engagement that dictates the interpersonal experiences within sessions. Questions about how often these sessions should happen and where, are currently made by the centres themselves and this is an area that needs more exploration. The results leaned towards an outside environment being preferable to both children and donkeys however, modifications that enabled donkeys to see, hear and smell other donkeys and flickering lights or sound resonance being managed for the children, could provide an alternative option.

Wilson and Netting (2012:17) called for new research to consider the use of existing instruments or tools in order to substantiate EAA if the field is to gain credibility. They suggested that there should be more intentionality in designing studies that are comparable in the interventions, using valid and reliable measurements and the QET offers this opportunity. There were no other instruments available to measure engagement between autistic children and donkeys therefore I designed the QET to compliment case by case contextual data analysis as well as analysis of comparable data for monitoring of centres.

Since I started this research project the Donkey Sanctuary interaction centres have changed their offer considerably in response to explorations about riding. Whilst riding for the disabled was assumed to be a good thing for both species in the 1960's, understanding of interspecies interactions has moved on. The value of ground interactions not only enables better engagement between

participants, it makes the activity more inclusive. Interactions are no longer dependant on the weight or height of humans or the carrying ability of donkeys. As previously mentioned the Donkey Sanctuary have over 6000 donkeys in their care in the UK and they range from foals to elderly residents occasionally up to 50 years old. EAA can provide an enriching activity for some of those donkeys and to a variety of humans irrespective of their age.

### **Unique Contribution to the Research Body**

This research arose because the Donkey Sanctuary UK wished to explore if their donkey interaction program was a good thing for both children and donkeys following the intentions of the founder Elisabeth Svendsen (Feather 1986:247). When considering a specific research focus, the management team and trustees were keen to ensure that the enquiry would be both rigorously explored and inform their practice going forwards. The initial emphasis on discovering the clinical benefits of EAA was in response to early critiques about the methodology employed to measure benefits. They wanted to ensure that benefits were grounded in the same type of scientific evidence that they were most familiar with from their donkey health research. The path of the research changed early on as I became aware of the practice of only measuring the human's responses and not the equid's in much of the research literature. My concerns led me to explore the media representations of EAA as well as the established organisations offering EAA for autistic children. My findings reflected Carsten (2013:246 from Govindrajan 2018:10), who noticed that thoughts about the mutuality across species tend to dominate studies of relatedness that, on the whole, give off a 'warm fuzzy glow rather than a cold

shiver.’ There was a lack of research showing mediocre benefits or even harms of EAA. This could have been attributed to the so-called ‘file-drawer effect’ (Herzog 2016: np), whereby research that does not show positive effects gets disregarded and not published. Nonetheless, the picture felt incomplete and unrealistic. I felt that there ought to be research reflecting a middle ground between a warm, fuzzy glow and the extreme end of cold shivers in order to present an honest reflection of these very interpersonal and highly subjective interspecies relationships. The chapters that I have presented reflect my intention to make a unique contribution to the body of research on EAA by addressing the missing pieces.

By treating autistic children as individuals and not using psychometric test scores to define how far away from the non-autistic norm they are, I have discovered that the noun ‘benefits’ is too subjective to measure quantitative benefits for autistic children and their families.

The perception of authenticity about EAA is often a reflection of a person’s own beliefs depending on what role they hold in relation to the practice. This ‘positional authenticity’ is reflected in both the media and some EAA literature and, as a consequence, can impact upon the beliefs of carers of equids and autistic children. This research measures equids responses as well as humans and the findings from the QET have reinforced the importance of doing so. By measuring engagement between both species in the EAA dyad quantitatively and qualitatively, I have told the whole story. The undefined yet very special ‘thing’ that is so attractive about equids should be observed as a concrete variable, such as their ability to engage for the purpose of EAA research. This research has shown that interspecies engagement can be measured and can be used as an indicator for welfare and consent. It does not, however, show that

such engagement reflects outcome benefits. I have argued throughout that 'benefits' are subjective and dependent on how and of whom the question is asked. Other EAA research has indicated that there are positive 'benefits' from EAA, yet they have not included measures of the level of engagement their participants actually experienced. Without a clear indication of engagement between partners, it is not possible to attribute these benefits solely to the equid.



*Photograph 21: Friends*



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